

THE
RAND-McNALLY
PRIMARY SCHOOL



GEOGRAPHY

RAND, McNALLY & COMPANY
CHICAGO AND NEW YORK

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THE RAND-McNALLY

PRIMARY SCHOOL

GEOGRAPHY

ILLUSTRATED BY

DIAGRAMS, COLORED MAPS, AND ENGRAVINGS,

PREPARED EXPRESSLY FOR THIS WORK.

CHICAGO AND NEW YORK:

RAND, McNALLY & COMPANY.

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P R E F A C E .

Two things are required of a good text-book: One of them is that it shall neither rise above nor fall below the intelligence of the pupil; that it shall be neither too technical nor too childish, but shall lead him steadily onward step by step, each lesson preparing him to understand the more difficult one which follows. The other is that the book shall meet fully the needs of the teacher; shall be a perfect educational tool for his use, and shall at the same time direct and advise him if he lacks experience. The best results are gained when the best text-book is put in the hands of the ablest teacher.

The publishers feel sure that the verdict of good educators will confirm their claim that this Primary Geography meets in all respects the highest demands of both pupil and teacher. It is believed that for simplicity and precision of statement, for clearness of explanation, and for thoroughness of treatment, the work will take high rank. The hints to teachers are based upon the educational experience of years.

It has been deemed wise to keep to the "question and answer method," for the reason that direct questions and plain answers are best suited for young pupils. They can not select from a continuous story the essential facts which it is most important they should know. These points must be presented to them briefly and clearly, and the teacher must see that they are fixed in the memory. An examination of the answers will show that while they are short, nothing important is omitted.

This Primary Geography is a *text-book*. Each lesson as given is the *text*, which the teacher in the class-exercise is to comment on, discuss, illustrate, explain, and amplify. The lesson is the basis of the work. It is to be studied and memorized by the pupil as a preparation. This preparation is to be tested by the teacher, and, when found perfect, is to be used as the foundation upon which to build.

Ample provision is made for study, and with each lesson is material for oral work, which will be useful to the teacher, while interesting and instructive to the pupil. Teachers are especially urged to carry the oral work beyond the suggestions given, as the field for it is without limit. No branch taught in schools of the Primary grade offers such an opportunity for mental development as Geography, and no subject will give so much pleasure to teacher and pupils, if it is properly handled.

In this book the lessons become longer and the treatment and subject-matter gradually more mature until at the close the style approaches that of the more advanced one which follows.

The other features of the work are equally meritorious. The numerous illustrations, which have been prepared with special reference to the text, will be of great service to the pupil. They enable him to take in with the eye what he might find hard to grasp with the mind. They should be made the basis of frequent oral work. The mechanical execution of maps, diagrams, cuts, letterpress, and binding will be found at least equal to that of any similar publication.

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THE STUDY OF OUR WORLD

LESSON 1.

The Shape of the Earth.

Upon what do we dwell?

The land.

What is the land?

It is a part of the surface of the earth.

What is the earth?

The earth is a great ball.

Is the part of the earth's surface which we can see large or small?

It is large to us, but very small compared with the whole of the earth's surface.

Does it appear to be round, like a ball, when we look at it?

It does not; it seems to be flat.

Why does it seem to be flat?

A small part of any large ball appears flat when we can see no other part.

ORAL EXERCISE.

Punch a small hole through a piece of paper and lay it on an apple, and show that the surface seen through it seems flat.

Commence at a point on an apple and draw a line around it, and show how a fly following that line straight ahead would come back to the starting point. Tell how travelers journeying in a straight course on the earth's surface, if they go far enough without turning back, will reach the point from which they started, just as the fly would on the apple.

Give the story of Magellan's voyage in 1520. Show that if the earth were flat his ship never could have reached home without turning around.

Show pupils that the sun and moon are round, and tell them that the earth is round like them.

NOTE TO TEACHER.—Words must from time to time be introduced in the lessons which will be new to the pupils. Never pass such a word until its *meaning* and *use* are mastered thoroughly by them. In this lesson the word **surface**, for instance, should receive attention. Let each pupil try to define it, or give another word meaning the same, as, for instance, *outside*. Let the pupils place their hands on the surface of various things, as desk, blackboard, apple, etc.

In this book the words upon which pupils should be drilled will be indicated under "Oral Exercise" in type like this: **Surface**. Each exercise should close with a drill upon the indicated words of the following lesson. See a model in the next column.

In conducting the "Oral Exercises" be sure that you yourself use no word not plainly understood by the pupils. When you must use such a word, explain it thoroughly. In all word exercises first try to have the pupils learn meaning and use from each other.

LESSON 2.

The Size of the Earth.

What is the distance around the earth?

About twenty-five thousand miles.

How far, or what distance, is a mile?

It is about the distance a man can walk in twenty minutes.

How far can a man walk in an hour?

About three miles.

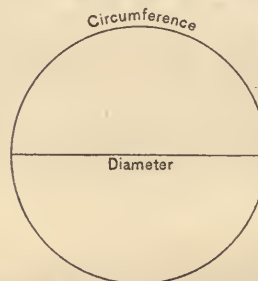
What is the distance through the earth?

About eight thousand miles.

ORAL EXERCISE.

As near as you can, tell each pupil the distance in miles from the school to his home.

Take the class to a window, or outdoors, and show them the horizon. Explain what it is and how it bounds our line of vision where the earth and sky meet all around. In a level country to a man of medium height the horizon is about five miles distant. Say that the distance around the earth is called its *circumference*, and the greatest distance through the earth its *diameter*, explaining clearly by means of an apple, an orange, or a ball.



Explain that the distance around the earth is about five thousand times as far as the horizon appears.

In all estimates of distance a day's journey for a man on foot (thirty miles), or of a train of cars (seven hundred and fifty miles), is a good unit of measurement for children. In speaking of the distance through the earth, say that could a well be dug deep enough to go through, by looking down it the blue sky could be seen on the other side. This well would be about eight thousand miles deep, and it would take a man about nine months to walk, or a train about ten days to run, such a distance. Test pupils' experience of distance in journeys, walks, etc.

SUGGESTIONS FOR WORD DRILL.—Teacher: "In the next lesson the word **material** occurs. Let each who can tell the meaning of that word raise his hand."

Some of the pupils raise their hands.

"John, what is material?" John answers, "Stuff."

"Mary?" Mary says, "What anything is made of."

"George?" George agrees with Mary.

"What do you say now, John?" John replies, "Well, everything is made of stuff."

"Would you say the stuff of the earth or the material of the earth?"

John thinks material is a better word. The class agrees that material means "what anything is made of."

Teacher: "What is the material of the stove? The door? The school-house?" etc.

Teacher: "Who can tell the meaning of the word **cultivate**?"

John: "To kill the weeds between the rows."

Mary: "To work the land."

George: "To farm, or raise crops."

The teacher leads the class to conclude that to cultivate the soil is not alone to kill the weeds, but to prepare it, and to plant, raise, and gather the crops.

As far as you can, draw from the pupils their ideas of meanings and use of words leading them to right conclusions.

LESSON 3.

Material of the Earth.*Of what is the earth composed?*

Land and water.

What is land?

It is rock.

Is it solid rock?

It is solid in ledges, cliffs, and mountains.

What is the land in the valleys?

It is rock ground up or decayed, making sand, clay, black soil, etc.

Is there as much land as water?

No.

How much land is there?

One-fourth of the whole surface.

How much water?

Three-fourths of the whole surface.

ORAL EXERCISE.

Material. Composed. Cultivate. Decayed.

It is supposed that thousands of ages ago, before animals existed, the whole surface of the earth was covered with water.

It is believed that great changes in its structure caused the surface to become ridged and broken into mountains, hills, valleys, and plains, and that about one-fourth of its surface was raised so as to lie above the water level, and that thus continents and islands were formed.

Explain to pupils that after many thousands of years much of the rock had become ground up by pieces rubbing against each other through the action of rains, by freezing and thawing, and by decay, so that the earth covering which we see was formed.

Tell them that, after a long time, plants and animals appeared on earth, and at length man was created.

Have pupils bring pieces of stone. Show how a piece just broken off is sharp and angular, and that pebbles are pieces that have had much of their body worn away. Rub two pieces together, causing some of the material to fall upon a sheet of paper. Explain that this fine material

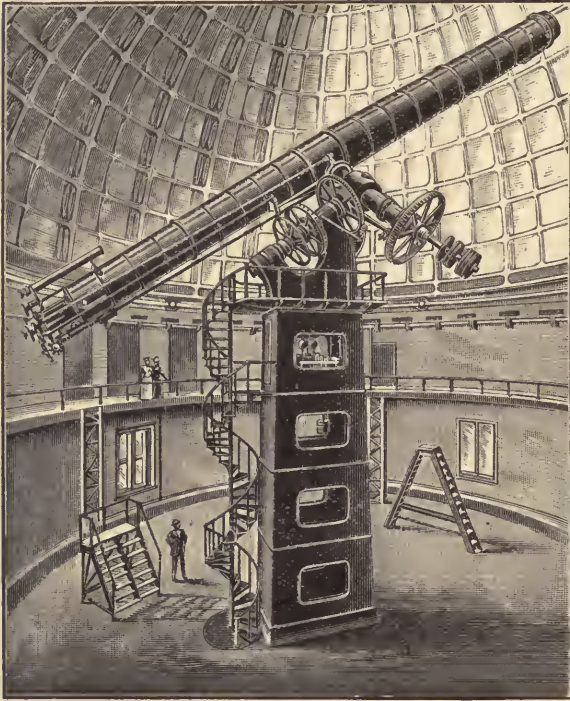
is sand or earth, and that all sand, etc., has been made by the forces of nature, exerted during inconceivably great periods of time.

Tell how explorations of the ocean, made by sounding its depths, show that under it the surface of the earth is much like that which we see upon the land, and that the water which covers so much of the earth varies in depth from a few feet to over five miles.



GOVERNMENT VESSEL MEASURING DEPTH OF OCEAN.

By a little calculation, show that though five miles seems to us to be very deep, yet really it is but little compared with the earth's great bulk, being but as five miles compared with the diameter of eight thousand miles, or one sixteen-hundredth. On a globe six inches in diameter a covering of water corresponding with the water on the earth would be but the thickness of very thin paper, or of water enough to wet it.



THE YERKES TELESCOPE.

LESSON 4.

The Earth as a Planet.

Does the earth rest on anything?

It does not.

Why does it not fall?

There is a force which keeps it moving around the sun and prevents it from leaving its path.

What is the sun?

The sun is a great ball hundreds of times as large as the earth.

How hot is the sun?

It is many times hotter than red-hot iron.

Does the earth receive heat from the sun?

The earth receives all its heat from the sun.

What else does the earth receive from the sun?

Our light comes from the sun.

ORAL EXERCISE.

Planet. Circle. Prevents.

Let a boy attach an object to the end of a string and swing it around and around his hand as an illustration of the earth's movement about the sun.

Show that the moon revolves in the same way around the earth, and that many planets besides the earth revolve about the sun.

Name some of the planets. Jupiter, Venus, Mars, etc.

Mention the telescope and its uses.

Smoke a piece of window-glass and let pupils look through it at the sun. Tell of its distance from the earth, which is so great that the fastest train would be hundreds of years in traveling so many miles. An ordinary train starting when Columbus sailed, and running continuously, would hardly have made the distance by this time.

Speak of other suns in space, thousands of times as far away as ours, and say that with two or three exceptions (the planets) every star we see is a sun.

Explain that the light from the moon is reflected sunlight, and that some light comes from the stars.

LESSON 5.

The Air.

What is there belonging to the earth which covers its whole surface, both land and water?

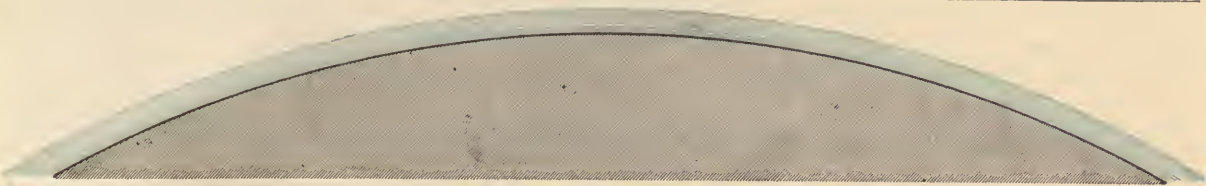
The air.

How high does the air extend?

Over a hundred miles.

Does the air move?

It does.



PROPORTIONATE DEPTH OF AIR UPON THE EARTH.

What do we call moving air?

Moving air is called wind.

Can we see the air?

We can not.

Can we feel the air?

When the air moves we can feel its pressure.

Is there much force to the movement of the air?

Sometimes it has such force as to blow down trees and destroy houses.

What is a light wind called?

A breeze.

What is a strong wind called?

A stiff breeze.

What is a very strong wind called?

A storm or gale.

What are those winds called which are so strong that they sometimes destroy towns?

They are called cyclones or hurricanes.

ORAL EXERCISE.

Pressure. Force. Destroy.

Question the pupils on their experience with the air, what they have seen it do, such as moving windmills, ships, etc. Explain that without it animals quickly die and fire quickly goes out. Show that animals breathe it



CYCLONE DESTROYING A TOWN.

through their lungs, and that plants absorb it through their leaves. Explain diagram.

Encourage children to notice which way the wind blows.

NOTE TO TEACHER.—It is uncleanly and injurious to breathe air which has been exhaled. Many headaches and much sickness result from bad ventilation. Let fresh air in at the top and it will force the foul air out of the room.

LESSON 6.

Forms of Land.

What do we call the large bodies of rock, or land, which rise above the water and are entirely surrounded by it?

Continents.



How many continents are there?

Three.

Are they of the same size and shape?

No; they differ very much from each other.

Are there small bodies of land rising above the water and entirely surrounded by it?

Yes; thousands of them.

What are they called?

Islands.

What is a peninsula?

A peninsula is a body of land like an island, but not entirely surrounded by water; it is joined to the mainland by a neck or a strip of land.

What is an isthmus?

An isthmus is the neck of land which joins a peninsula to the mainland, or unites two large bodies of land.

What is a cape?

A cape is a point of land extending into the water.

What is a coast?

The edge of the land where it meets the water is called a coast.

What is a promontory?

A high and rocky cape is sometimes called a promontory.

ORAL EXERCISE.

Differ. Mainland. Extending. Unites.

Sketch a continent upon the blackboard. It is not necessary to name it. Explain that when this great area appeared above the water, many others came up also, some very large and some very small.

Draw some islands. State that any body of land, large or small, except the three great masses, if entirely surrounded by water, is an island.

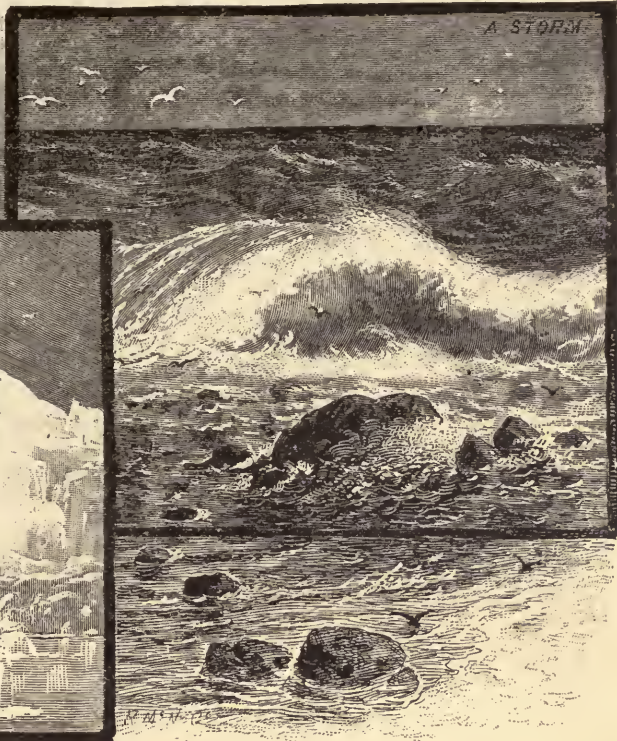
Give an exercise with coast for its subject. Take an imaginary walk along the coast with pupils. Speak of high banks of rock as cliffs, high banks of sand and clay as bluffs, smooth sandy shores as beaches. Speak of billows breaking against the cliffs, or rolling gracefully over the beaches. Ask pupils if they have ever seen the coast, and, if they have, ask them to describe it. Mention pebbles, shells, bright bits of sea-weed, timbers of wrecked vessels, etc., scattered along the shore. Suggest vessels sailing here and there off the coast.

Speak of the salty taste of the water. Put a heaping teaspoonful of salt in about a pint of water and let such as wish taste it to learn how salt the ocean is. Tell how

A CALM.



A STORM.



sailors on ships have sometimes suffered from thirst when their supply of fresh water was gone.

Add to these suggestions. Seek to impress upon the pupils' minds a vivid conception of a sea-coast, so that they will think of it as a real water and land scene rather than a black line upon the map.

Cause the class to conceive that they are looking across the water from the mainland, so as to see an island you have drawn, as a real body of land, rising above the water, with its beach, gardens, and trees, and with cattle grazing on its sloping fields. Let the class suppose that boats are sailing across the water to reach it, as, of course, being "entirely surrounded by water," it can be reached only by vessels.

Now ask the pupils what this body would be called if there were a narrow strip of land where those boats are sailing, so that it could be reached by carriage from the mainland. Draw in an isthmus, changing the island to a peninsula. Explain that peninsula means *almost an island*, and that the island you drew would be a peninsula if it were not entirely surrounded by water.

After thus orally exemplifying an island, a peninsula, and an isthmus, change your peninsula to a cape by rubbing out the isthmus and so drawing as to make what was the peninsula a point of land, and thus show what a cape really is. Finally, let the pupils trace on the blackboard the foregoing divisions of land. Use picture and map on page 33 in further illustration.

LESSON 7.

Forms of Water.

What is the great body of water called which surrounds all continents and islands of the sea?

The ocean.

What is a bay?

A bay is a body of water extending into the land.

What is an estuary?

A wide river-mouth, like a bay.

What is a gulf?

A gulf is a body of water like a bay, but larger.

What is a sea?

A sea is generally a portion of the ocean partly surrounded by land.



MOUNTAIN.

VALLEY.

RIVER.

HILL.

What is a strait?

A strait is a narrow passage of water which connects two larger bodies of water.

What is a channel?

A channel is like a strait, but larger.

What is a sound?

A shallow branch of the ocean.

ORAL EXERCISE.

Surrounds. Portion.

Discuss the ocean with the class. Ask if any one has crossed it. If no one in the class has, ask if the parents of any pupils have. From what country? In what kind of a vessel? How long did it take to cross? Could any land be seen? Are there clouds over the ocean? Does it rain there? Are any birds seen there? Speak of whales, sharks, flying-fish, etc.

Describe icebergs.

Drop a piece of ice in a glass of water and show that nearly all its bulk, about seven-eighths, is beneath the surface. So is it with an iceberg; as large as it appears, we see but one-eighth of it.

In imagination sail past an island.

Describe an ocean storm, and the appearance of land

at the end of a voyage, coming into harbor, entering dock, etc.

Explain that sometimes a large lake is called a sea, as the Dead Sea, the Caspian Sea, etc. The ocean itself is often called the Sea. Mention the English Channel or the Mozambique Channel as an example of a channel.

LESSON 8.

Surface of the Land.

Is the surface of the land smooth and level?

No; the surface of the land is rough and uneven, except in some places.

Are there many places where the surface is smooth and level?

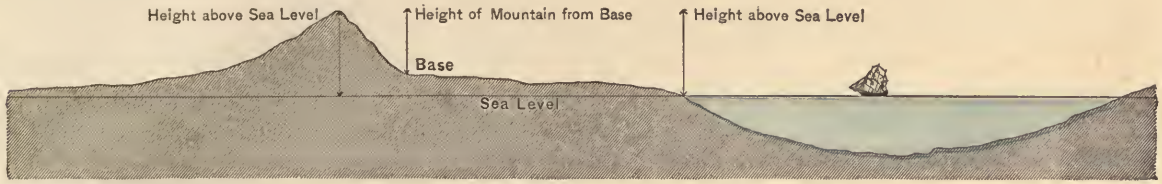
Such places are few.

What is a mountain?

A mountain is a ridge or point of land much higher than the surrounding surface.

What is a mountain range?

A mountain range is a long row of ridges.



MEASUREMENT OF MOUNTAIN.

What is a mountain system?

A mountain system is a number of ranges extending in about the same direction.

What is a hill?

A hill is a raised surface of land not so high as a mountain.

What is a plain?

A plain is a tract of land nearly level, not much higher than the sea.

What is a plateau?

A plain lying much higher than the level of the sea is called a plateau.

What is a valley?

A valley is the low land lying between ranges of hills or mountains.

Are mountains very large?

They seem large to us, but in comparison with the earth they are very small.

country may appear to be, it generally has slope enough to cause the water to flow off.

State that nearly all land surface is divided into slopes.

Crumple a sheet of paper thoroughly and then spread it out smoothly upon a desk and let it represent the land surface. Its irregularities will correspond with hills, valleys, etc. Draw a line across it to represent a road, and show how the road runs up, over, and down the hills, and through valleys, just as some well-known road in the neighborhood does. Make dots along the road to indicate houses, and show how one man lives upon a hill and another in a valley. Let the desk surface represent the sea level, and have pupils point to the elevations of the paper as hills not very high.

Now take the paper and crumple it again, lengthwise, into creases, and smooth it out less than before. Show that these long, high ridges, much higher than those we called hills, represent mountains. One crease may be called a mountain ridge, two or three a chain, and the whole a system. Show how the depressions between the ridges are like valleys.

Crumple the paper again, so as to have ridges near opposite edges, with a wide valley between them, the valley itself containing many hills and lesser valleys. Show how this wide valley may be nearly level, so that it may be called a plain.

Arrange the paper so that there may be a plain raised considerably above the level of the desk, and show that this high plain represents a plateau.

COMPARATIVE HEIGHT OF MOUNTAINS AND DEPTH OF OCEAN.

ORAL EXERCISE.

Tract. Level.

Lay a slate level upon a desk and pour a few drops of water upon it. Show that the water does not flow off from a level surface. Explain to the class that where land is level the water from the rains does not flow off, but becomes stagnant, and the land is marshy and swampy. A country covered by stagnant water is not healthful. Raise one end of the slate very slightly and let the class see the water run off. State that there are but few places on the land surface where it is level enough for water to stand still, and that however level a tract of

Draw a straight, horizontal line on the blackboard, four or five feet long, to represent the sea level. Near one end commence a line to represent a land surface very gradually rising above the sea level to near the middle. Then raise two or three mountain ridges somewhat abruptly, and slope away on the other side to the sea level again. Tell pupils that some mountains are five miles high, *but not from their base*. Explain base, as where they begin to rise abruptly from the land. Impress upon pupils that mountain heights are computed from the sea level, and that were these mountains five miles high, perhaps three miles of this height would represent the gradual rise of the land from the sea level, hundreds of miles away, and two miles the height from the base.

Ask such pupils as have seen mountains to describe them. Ask pupils to bring as many pictures of mountains to school as they can procure, and use them to illustrate different features of mountains. Railway companies give away advertisements abounding in pictures of mountain scenery.

Describe peaks, passes, crags, precipices, etc. Speak of the forests usually found upon mountain-sides.

Explain that though a mountain ridge appears very large, its size, compared with the bulk of the earth, is less than the roughness of an orange compared with the orange.

Try to create in the minds of pupils a conception of mountains as vast ridges of rocks, covered with earth, and wooded, piled up in lofty lines and peaks, stretching over great distances, with land sloping away from their bases either way. Do not let them think of mountains as rows of scratches across a map.

LESSON 9.

Moisture.

How does moisture reach the land surface of the earth?

It comes in the form of rain.

Where does the water which falls as rain come from?

Mainly from the ocean.

How is it taken from the ocean?

It is absorbed by the air.

How is it carried over the land?

The damp air moves from the ocean over the land as wind.

What is a cloud?

A cloud is a body of air so full of moisture that it can be seen in the form of vapor.

What becomes of the vapor in a cloud when it is cooled?

It turns to drops of water.

What then becomes of these drops?

They fall to the ground as rain.

What becomes of this water?

It soaks into the ground, moistening it, so that plants can grow, springs be filled, and animal life exist.



WATER GOING FROM SEA TO LAND.

Can plants grow or animals live without water?

They can not.

Are there parts of the earth that are always dry?

There are great plains where rain never falls.

What are such plains called?

Such plains are called deserts. Plants and animals can not thrive there because it is so dry.

ORAL EXERCISE.

**Moisture. Vapor. Thrive.
Absorbed.**

Prove that the air will absorb water by placing some water in a vessel, letting the class see after awhile that it has been taken up by the air.

Hang up a wet handkerchief and let the class notice that the air takes away the water and leaves it dry. Show that wherever the air touches moisture it absorbs it; and explain that all over the great ocean the air is constantly doing this, and that immense quantities are thus absorbed.

Show that heat causes the air to take up water rapidly, and cold causes it to let it go. Refer to a tea-kettle of water boiling, how the steam pours out and is taken up by the air; also, to the cold window panes in winter, explaining how the warm inside air coming in contact with the cold glass yields up its moisture, which runs down the window.

Show that all air contains water. Mention how the breath, when sent out into the frosty air in cold weather, has its invisible moisture immediately turned into visible vapor. Explain that the warm air up in the sky has its moisture turned into vapor when it meets with a chilling current, or the steam from a kettle when it strikes a colder surface, in exactly the same way.

Have the class watch a cloud for a few minutes and see it move over the land. Explain that, though it may be calm on the surface where we are, there may be high winds up among the clouds, causing them to move rapidly. Explain that, should the cloud meet with a cold wind, its moisture would gather in drops and those drops would fall as rain; and this is what happens whenever we have a shower. Tell them that if, on the other hand, it should drift into a warm place its vapor would again become invisible, and the cloud disappear.

Explain that when it is cold enough up in the sky to freeze the vapor before it can gather in drops, the result is snow; and that when drops are formed, and in falling pass through a very cold space, they freeze, and become hailstones.

Tell how the water soaks into the ground, where some is taken up by the little mouths of the plant roots to become sap, and how much of it flows down through the sand and gravel of the earth. Explain that wells are dug to reach this water, which flows in currents between the particles of sand and gravel under the ground.

Explain that water from the clouds is pure. The air in taking up water from the ocean leaves the salt behind. Water taken up by the air from foul swamps and puddles always leaves its impurities behind. If ink should be boiled the water rising from it as steam would not soil the whitest handkerchief, and all the coloring material would remain in the dish.

LESSON 10.

Drainage.

Do the clouds drop upon the earth more water than is needed to moisten the ground?

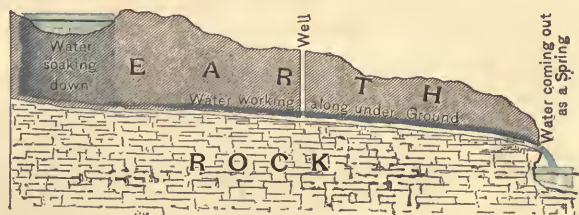
They do.

What becomes of the water that is not needed?

It sinks down through the earthy matter above the rock, and into the cracks of the rock.

Does it remain there?

No; it works along under the ground, and at length comes out through little openings called springs.



What does it then do?

It flows in the form of rivulets down the slopes of the land.

Where do the rivulets lead it?

They lead it into larger streams called brooks. Many brooks unite until the stream they form is large enough to be called a river.

What is a river?

A river is a large stream of water flowing through the land.

What is a lake?

A lake is a hollow place in the land filled with water from a stream or from springs at the bottom.

Which way does water always run?

Down hill.

Then which way do all rivulets, brooks, and rivers flow?

Down hill.

Do rivers flow toward mountains and hills or away from them?

Away from them.

Why?

Because away from hills and mountains is down hill.

What do we call a down-hill piece of land?

A slope.

What is a divide?

A divide is a ridge of land from which the drainage flows in opposite directions.



WATER RETURNING FROM LAND TO SEA.

ORAL EXERCISE.

Drainage. Opposite.

Explain that the clouds do not always drop rain upon the earth just when it appears to be needed. Sometimes we seem to need rain, and again to have too much of it, but as a rule more water falls from the clouds than the earth absorbs and retains.

Show that the surplus water, by following descending ground, seeks to reach the ocean whence it came. Show how this great circulation is forever going on, millions of tons of water leaving the ocean through the air and flowing back in rivers to the sea.

Arrange a water-proof garment, if it can be procured, in the form of a slope with some wrinkles. Pour water slowly on the upper edge for the class to watch as it trickles down, finding for itself channels and forming little lakes in the wrinkles of the garment. Notice where two or three wrinkles lead this water to a basin-like depression. Show that the water must all stay in this basin until it is so full that the overflow finds its way out at some place, leaving the basin full of water, thus illustrating the formation of the lake. Show that several rivers may flow into a lake, but seldom more than one flows out. Show that in the same manner the water falling on the land which slopes away from the mountain ridges finds the wrinkles or valleys of the earth's surface, thus forming brooks, lakes, and rivers.

Speak of some river-beds which, in the dry season, contain no water, but when the rainy season comes are filled with raging torrents.

Draw upon the blackboard a slope representing rock, and upon it a thickness of earthy matter. Show that if rain falls upon the top of it, some flows down the surface of the earthy covering while some soaks through to the rock, then flows underground down this slope and breaks forth near the bottom, thus forming a spring.

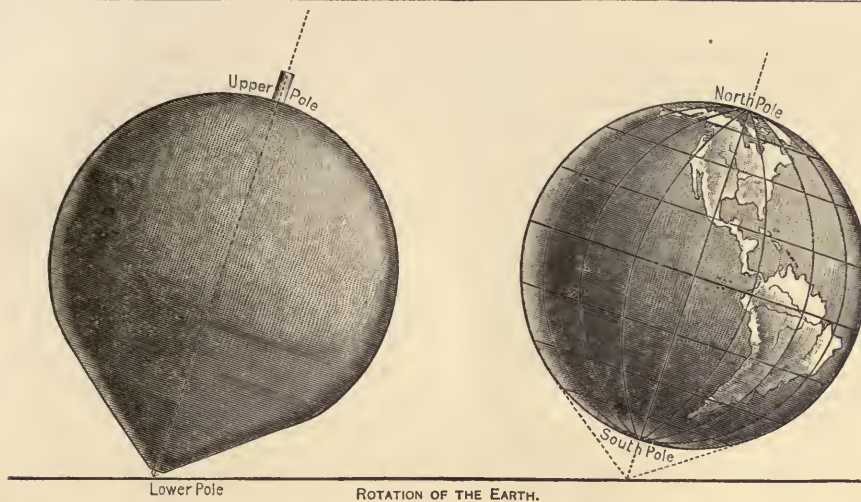
Draw two ridges of mountains with their slopes meeting to form a valley. Imagine a shower on the opposite slopes, and show how the waters would meet in the middle and form a river flowing down the valley.

Show that every valley should have its river, and that the river will flow toward the lower end.

To show how a river seeks descending ground, draw a river upon the blackboard flowing east. Suppose it to meet with high ground and to turn south, proving that the ground slopes in that direction. Then turn it west and draw from the class the reason for its turning. Turn it repeatedly in its course, each time discussing the reason for its turn, till the pupils understand that it is following descending ground.

Explain that a divide may be a high ridge of mountains or a gentle rise of land only a few feet high.

Explain to pupils that all the water they see upon the land, whether marsh, lake, brook, or river, has been up in the clouds as vapor.



In discussing drainage, make use of and explain the terms: source, branches, bed, banks (right and left), channel, mouth, current, basin, etc.

LESSON 11.

Daily Motion of the Earth.

Has the earth any motion besides revolving around the sun?

It has; it spins, or rotates, like a top.

Does the earth rotate all the time?

It does.

Does the earth rotate faster at one time than at another?

It turns with the same speed all the time.

Has it a spindle and a point to turn on like a top?

No; but it keeps its position without a spindle, just as the top does with one.

What is the point on the earth called which would be the lower end of the spindle if it had one?

The south pole.

What is the point opposite called where the other end of the spindle would be?

The north pole.

Which way does the earth turn?

From left to right, as we look at the map.

What is a day?

A day is the time in which the earth turns on its axis once.

ORAL EXERCISE.

Rotate. Spindle. Opposite. Revolving.

Have a boy spin a top. Explain the motion of the top, especially to the girls, by turning it slowly by hand. Call attention to the spindle of the top. Explain the picture by showing that the spindle through the earth is imaginary, as shown by the dotted lines. Say that the upper end of the spindle of the top is one pole and the lower end is the other, and that the point on the earth where the top of the spindle would be, if it had one, is called the north pole; and the point at the bottom, where the lower end of the spindle would be, is called the south pole.

Say that the earth leans all the time, as a top does when it begins to spin, as shown in the picture.

Make a dot upon its surface and rotate the top on its point slowly from left to right until the dot has passed around two or three times. Say that we upon the earth are turning with it all the time, just as the dot upon the top goes around with it.

Tell pupils that this rotation of the earth carries us along many times faster than the fastest railroad train. Explain why we are not sensible of this movement by saying that the motion is steady and that all things around us—air, clouds, etc.—move with us.

NOTE TO TEACHER.—Use the term spindle only long enough to establish the earth's movement in the pupils' comprehension. Then use the term axis as the equivalent of imaginary spindle. Say that the earth rotates upon its axis, and the ends of that axis are the poles.

Teach the pupils to think of the earth as a ball *always in motion*. Impress upon them the fact that the country represented by a map is moving rapidly eastward with the earth's rotation. In geography so much depends upon the earth's motions that this suggestion is important.

LESSON 12.

Direction.

What is direction?

The direction of a place is the way one must go to reach it.

Of what use is direction?

It enables men to find or to tell each other the way from place to place about the earth.

What are the four principal points of direction?

North, south, east, and west.

What is north?

North is toward the north pole.

What is south?

South is toward the south pole.

What is east?

East is crosswise to a direction north or south, toward the rising sun.

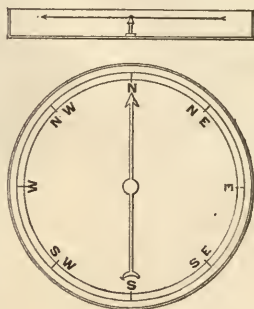
What is west?

West is crosswise to a direction north or south, toward the setting sun.

ORAL EXERCISE.

Enables. Principal.

Select some pupil who lives to the northward from the school-house, and show that his home is toward the north pole, or that the north pole is straight beyond. Explain that to go to his house is to go toward the north pole, or to go north. In the same way show that a pupil living south must go toward the south pole, or south, to get home.



POCKET COMPASS, TOP AND SIDE VIEW.

Select some residence or object eastward, and show that the direction to it is at a right angle, or crosswise, from north and south, toward sunrise, and that directly opposite to it is west, toward sunset.

In most of our central States the roads generally run north and south, crossed at right angles by roads running east and west. If living in one of these States, make use of these roads in teaching direction.

Draw a diagram on the blackboard showing the location of the school-house and the roads or streets near by, with trees, pond, mill, etc., and drill the pupils on the direction of each.

Explain that intermediate directions are called north-east, north-west, southeast, and southwest. Test pupils on all the objects drawn, as from pond to mill, tree to hill, etc. Also test pupils on direction between each others' homes, position of the school-house, etc.

LESSON 13.

Direction—Continued.

How can we tell in which direction the north pole lies?

By facing the sun; in the morning the left hand will be toward the north.

How can we tell in the afternoon?

By facing the sun; when the right hand will be toward the north.

How can we tell at noon?

In our country all shadows cast by the sun at noon point directly north.

How can we tell at night?

By the north star.

What is the north star?

A bright star in the sky which is right over the north pole.

How can we tell when neither the sun nor north star can be seen?

By the compass.

ORAL EXERCISE.

Directly.

Explain that the north star is a sun like our sun, but is so very far away that it looks small.

It is always in the same place right above the north pole. Could a ball be dropped from it to the earth it would strike at the north pole.

On a clear night take the class out and show them the star. Teach them to find it by means of the "pointers" in the "great dipper," which is easily found. (See cut.) A line drawn through these two stars will pass very near to a star much brighter than any of those around it. This is the north star.

Show the pupils a pocket compass, if you can procure one, and explain that a thin strip of steel, if magnetized, when balanced on a pivot, will always swing around and point to the north. If you, or any pupil, can bring a common horseshoe magnet to school, you can make an instructive experiment.

Rub a common sewing needle lengthwise a few times with the magnet and it will itself be magnetized. Now run the needle through a bit of cork, the size of a pea, and float it in a dish of water. It will point north and south, and will resume that direction no matter how it may be turned away.

In the north temperate zone the sun's shadow is always toward the north at noon, as it is toward the south in the south temperate zone at the same hour.

Select a post or tree in the yard and have a pupil drive a peg in the shadow at noon. It will always be noon when the shadow covers the peg, at all times of the year. (In the same way a peg may be driven for each hour of the day, and a very good time indicator be thus made.) A pin stuck in a window-casing or other level surface where it will cast a shadow may be used for the same purpose.

The north side of anything in our country is never reached by full sunshine. Lichens and mosses grow more abundantly upon the north side of trees, rocks, etc. The Indian is helped to find his way through the forest by knowing this fact.



FINDING THE NORTH STAR.

LESSON 14.

Daytime and Night.

What is daytime?

When the sun shines on us, making it light, it is daytime.

What is night?

When the sun does not shine on us, leaving us in darkness, it is night.

What causes daytime and night?

The rotation of the earth on its axis.

How does it do this?

It first brings us around into the light of the sun, and then carries us farther around to the opposite side away from it.

How much of the earth's surface is always in the light of the sun?

One-half.

When it is daytime on one side of the earth, what is it on the other side?

Night.

What is morning?

Morning is when the earth is turned toward the sun just enough to bring us into the light.

What is noon?

Noon is when the earth is turned so that we are most directly under the sun.

What is evening?

Evening is when the earth is turned so far that we are just passing out of the sun's light into darkness.



DAYTIME AND NIGHT.

ORAL EXERCISE.

Make use of the picture, or, better, take an apple and pierce it with a needle or wire, and use as indicated in the picture. If not convenient to use a lamp, let some other object represent the sun, and stick a pin in the apple to represent a person. Now turn the ball slowly to the right, and just as the pinhead comes in range of the light, show that it is morning.

Put another pin back of this an inch or so, and show that while it is daylight at the first pin it is still dark where the second is.

Turn slowly and show that when the first pin gets well into the light, or when it is perhaps eight o'clock, the second pin gets to the morning point.

Repeat this several times until you can show that some point on the earth's surface is *always* just coming in range of the light, and thus it is always morning somewhere. By a similar process it may be shown that it is always sunset somewhere and always noon somewhere.

Now remove all pins but the first and place one directly opposite to it on the other side of the apple. Show that when it is morning where indicated by one

it is evening where shown by the other, and when noon with one, midnight with the other.

Speak of people living in China, on the opposite side of the earth, and say that when we are awake, and it is daytime, they are asleep, and it is night.

LESSON 15.

Yearly Motion of the Earth.

We spoke in Lesson 4 of the earth as revolving around the sun. How does the earth stand before the sun in this great movement?

Sometimes it leans toward the sun and sometimes away from it.

What happens when it leans toward the sun?

The sun's rays fall straight upon our part of the earth.

What do these direct rays cause?

Hot weather.

What do we call the hot weather season?

Summer.

What happens when the earth leans away from the sun?

The rays strike our part of the earth slantingly.

What happens when the rays are slanting?

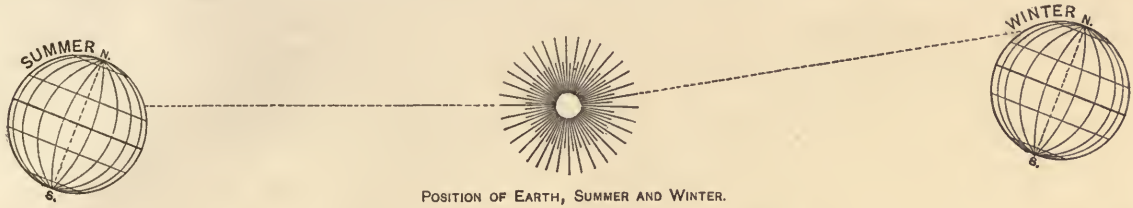
We do not get much of their heat, and the weather is cold.

What do we call the cold season?

Winter.

What happens when it has been cold and the earth's position is changing so that it will soon be hot?

The weather is neither cold nor hot, but is growing warmer.



What is that season between winter and summer called?

Spring.

When the summer passes and winter is coming, what is that season called which comes between them, when it is neither very hot nor very cold, but is growing colder?

Autumn.

Name the seasons.

Spring, summer, autumn, and winter.

What do we call the time taken by the earth in going once around the sun?

A year.

What is meant by one day?

The time it takes for the earth to rotate once upon its axis.

How many times does the earth rotate while it is going once around the sun?

Three hundred and sixty-five.

Then how many days are there in a year?

Three hundred and sixty-five.

ORAL EXERCISE.

Slanting. Complete. Position.

Take an orange or an apple to represent the earth and pass a knitting-needle or wire through it, holding it at the angle represented in the diagram. Let some object on the middle of the table or desk represent the sun.

If convenient, let a thread extend from the object representing the sun to indicate a ray of heat. Show how on the right, when the earth leans away, the ray

strikes the part where we live in such a way as to glance off, leaving little of its heat, so that our part of the earth is cold, and it is winter. Then move the apple to the other side of the sun, preserving the angle. The earth is now leaning toward the sun. Show that the ray now reaches the same part more directly, so that all its heat is absorbed, and our part of the earth is warm, and the season is summer.

Explain that the thread in the experiment and the dotted line in the diagram represent one ray of heat of the many millions we receive from the sun.

Ask pupils what is the condition of the ground, the ponds and lakes, the trees and plants in winter. Show that no growth is in progress and that all nature is waiting for the warmth of the sun.

Speak of the necessity for warmer clothing and of the warm, thick coats of hair and feathers that beasts and birds wear. All this is due to the cold caused by the earth leaning away from the sun.

Speak of the disappearance of ice and snow, trees beginning to bud, grass beginning to grow and flowers to blossom, and how all plant life springs into activity, and animals shed their thick hair as the gradual change takes place from the cold weather of winter to the warmer weather of spring.

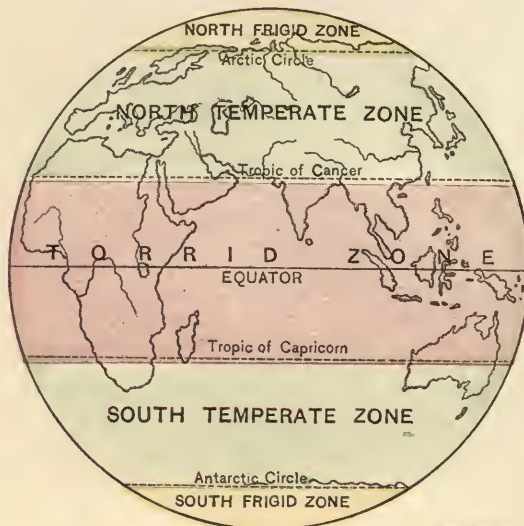
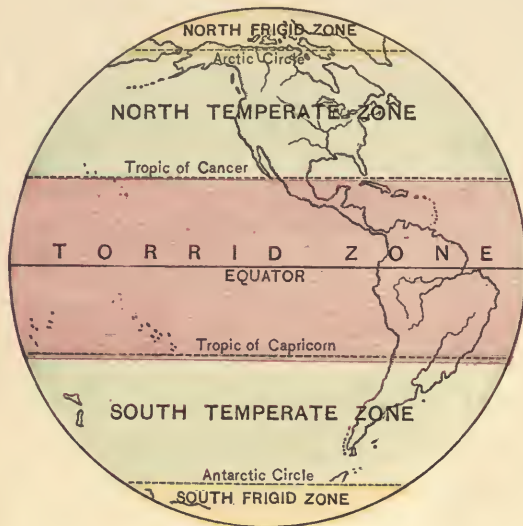
Show that all this is caused by the warmth of the sun's rays, and that these rays are warmer because they are more direct, and are more direct because the earth's position changes in its journey around the sun.

Question children about their sports and about the employment of the farmers in spring-time. Speak of the planting of grains, etc., and of wild fowl flying in great flocks to the north.

Show how, as the earth proceeds upon its journey, the sun's rays come more and more directly until in July, or midsummer, they are oppressively hot. At the coldest season, or winter, the earth was leaning away from the sun, and now in the warmest season, or summer, it is leaning toward the sun.

Now show that, as the rays begin to slant again, it grows less hot, and at length cooler and yet cooler, and frosts begin to come, and fruits and vegetables are ripe, and farmers are gathering their crops that grew during the hot season.

Show that, as the earth is getting toward the last of its great journey around the sun and returning to the place whence it started, cold gradually increases until the autumn is past and winter has returned again.



LESSON 16.

Zones.

Is there a part of the earth where the rays of the sun always strike directly, no matter how it leans?

Yes; a wide belt around the middle.

Is it hot there?

Yes; it is very hot all through the year; it is summer all the time.

Is there another word for hot?

Yes; torrid means hot.

Is there another word for belt?

Yes; zone means belt.

What is this hot belt called?

The torrid zone.

Is there a part of the earth where the rays of the sun strike very slantingly, no matter how it leans?

Yes; there are two such parts, one around each pole.

What other word may be used for cold?

Frigid means cold.

What are these cold zones called?

The north frigid zone and the south frigid zone.

The torrid zone is very hot and the frigid zones are very cold. Now, are there zones between them which are neither very hot nor very cold?

Yes; the temperate zones.

How many temperate zones are there?

Two; one north of the torrid zone and one south of it.

In what zone do we live?

In the north temperate zone.

What is the other temperate zone called?

The south temperate zone.

What is climate?

The general state of the weather.

ORAL EXERCISE.

Make use of the diagram in Lesson 15, or draw a circle on the blackboard representing the earth, with a small circle at a distance representing the sun. Now stretch a string from the sun to different parts of the earth, at each part explaining that the string represents a ray of heat falling more or less directly upon the earth, quite directly in the middle, or the torrid zone, and very indirectly at the poles, or frigid zones.

Show that the farther from the middle the ray strikes, the more it slants, and the colder the climate is, until, reaching either pole, there is so great a slant that heat is almost absent. Ice and snow always prevail in those regions, even while it is summer with us.

Do not try to teach the width of the zones or their limits; leave that for a higher book.

Explain that *temperate* means *moderate*, and that the degree of heat in the temperate zones is moderate, or neither very hot nor very cold.

Drill pupils to realize the gradual decrease of heat from the equator to the poles. Explain that many attempts have been made by different nations to reach the poles, but all have failed because of the dreadful degree of cold and the ice there, which make travel so difficult.

Show that there are no sudden changes of temperature in leaving the torrid zone, but that the climate changes gradually from tropical to semi-tropical, from that to temperate, then to frigid.

Take imaginary journeys from the equator to either pole and back, noting difference of plants, animals, men, character of country, etc.

Mention that the largest animals are found in the torrid zone, with the exception of the whale, which is found in all climates, and that the fur-bearing animals are found in cold countries.

Emphasize the fact that cold is as intense at the south pole as at the north pole.

Note in your journeys luxuriant tropical vegetation gradually decreasing toward the poles, until only mosses and lichens are found, and even these finally cease. Speak of vast fields of perpetual ice in the frigid zones. Mention icebergs breaking away from these fields at the coast and floating upon the ocean toward the torrid zone, until, reaching warmer regions, they melt away.

Show that climate, as regards heat and cold, depends mainly on distance from the middle of the torrid zone toward either pole. Speak of hot, cold, wet, or dry climates, and of man as the only animal able to adapt himself to all of them.

Explain that altitude affects climate. The higher we ascend, as up a mountain, or on a plateau, the thinner is the air and the cooler the climate. Show that even in a warm country, like Mexico, there are places up in the mountains where snow is perpetual.

LESSON 17.

Plant Life.

How do plants grow?

With their roots in the soil and their leaves in the air.

What do the roots do for the plant?

They draw in from the soil water in which their food is dissolved.

What do the leaves do for the plant?

They breathe in air which the plant needs.

What is the most important use of plants?

They are food for man and animals.

What other use is made of plants?

Material for clothing is made from them.

What else do plants furnish?

They furnish material for paper and for lumber.

In what other way are plants useful?

They furnish most of our medicines.

Are large trees plants, the same as grass and flowers?

They are.

ORAL EXERCISE.

Soil. Dissolve. Lumber. Medicine.

Tell pupils of the conditions that must prevail before plants can grow:

1st. Soil. This has been produced from the rocks by ages of natural action.

2d. Light and warmth. These come from the sun, millions of miles away.

3d. Air. This surrounds the whole world in abundance.

4th. Water. This, by a beautiful natural process, is brought from the ocean and deposited in the soil.



R. M. N. - C.

ONE OF THE GREAT TREES OF CALIFORNIA.

Explain that some plants require much heat, and these grow in the torrid zone; others thrive best in moderate heat, and these grow in the temperate zones.

Give the class an exercise in naming plants which are useful to man as food; for instance, all the grains, such as wheat, corn, rice, etc.; vegetables, such as potatoes, carrots, cabbages, etc.; spices, such as nutmeg, pepper, etc.; plants used for making drinks, as tea, coffee, etc.; fruits, such as apples, cherries, bananas, etc.; also sugar-producing plants, as sugar-cane, beets, etc.

Ask pupils what ropes are made from. Let the class name plants that are useful as material for clothing, as cotton, flax, rubber-tree, etc.; and such plants as are used for lumber, as many kinds of forest trees.

Remind pupils that in many parts of the world wood alone is used for fuel, and state that coal itself is but the remains of plants which lived and died many thousands of years ago.

Mention some medicinal plants, as the poppy, which yields opium, and the cinchona tree, which yields quinine; also some plants from which paint materials are obtained, such as flax, which yields linseed oil; the pine tree, which yields turpentine; also plants which yield colors for dyeing cloth, as indigo, logwood, etc.

Speak of the bamboo, a grass, the stems of which grow as large and tall as trees, and whose wood is more useful to the Orientals than any other; the cork tree, growing upon the hills of Mediterranean countries, whose bark furnishes material for corks, shoe-soles, etc.

LESSON 18.

Animal Life.

In what way are animals superior to plants?

They have sensation, and can move at will.

What are the five senses of animal life?

Seeing, hearing, smelling, tasting, and feeling.

What is one of the important uses of animals to man?

They are used for food.

In what other way are they useful?

They are made to labor for man.

What other uses are made of animals?

Their wool, hair, feathers, and skins are used as material for clothing.

Are birds, fishes, reptiles, worms, snails, and insects animals?

They are among the lower forms of animal life.

Is man an animal?

Yes; man is the superior animal of all.

Upon what do animals feed?

Upon plants and other animals.

For what purpose were plants and animals created?

For the use of man.



ELEPHANTS.

ORAL EXERCISE.

Sensation. Superior. Purpose. Created.

Let pupils mention the animals they know of from large varieties to small, as from whales, elephants, etc., down to insects.

Explain that there are innumerable varieties so very small as only to be seen by means of a microscope, and that thousands of these little animals may exist in a drop of water. Tell what a microscope is.

Show that with some animals the senses are much more acute than in man; for instance, the dog can smell his master's track in a crowded street, and follow it a long time after his master has passed that way. A hawk soaring in the sky can see a mouse or other small prey upon the ground at a great distance.

Ask such questions as this: How do animals move? Have pupils name some that walk, fly, swim, or crawl.

Ask pupils to name some animals which are useful to man. Write their names upon the blackboard as they give them. After a list is prepared, ask concerning each animal in what way it is useful. Develop the fact that birds are very useful in the way of devouring injurious insects. Show that many fishes are useful for food.

Require pupils to give a list of clothing material obtained from animals, such as wool, leather, etc. Also let the class mention the kinds of work animals do for man, such as drawing of wagons by horses, watching of flocks by dogs, etc.

Give examples of the intelligence and faithfulness of animals. Show that animals suffer keenly when injured, and teach pupils lessons of kindness to them.

LESSON 19.

Man.

Upon what parts of the earth does mankind dwell?

Man dwells upon all parts of the earth's surface, except in the frozen regions about the poles.

Do men dwelling in different countries differ from each other in appearance?

They do.

How many separate races of man are there?

There are five races.

How do they differ from each other?

They are different in color mainly.

Name the races.

The white race, the yellow race, the red race, the brown race, and the black race.



THE FIVE RACES OF MAN.

To what race do the people of this country belong?

To the white race.

Are there any people of the black race in this country?

Yes; they are called Negroes.

Are any people of the red race here?

Yes; the Indians are of that race.

Are there any of the yellow race here?

Yes; a few Chinese and Japanese.

Are there any of the brown race here?

Very few; that race dwells in the islands of the Pacific Ocean.

ORAL EXERCISES.

Regions. Appearance. Separate.

Tell pupils that in a state of nature, that is, without the appliances of invention and art, man would be one of the weakest of animals. Show that, by the application of his mental power to the invention and use of implements, he has made himself master over all other animals and diverts most of the forces of nature to his use.

Show that man can think out the reason of things, which animals can not do, and that while they may naturally see, hear, and smell better than he, he can

remember, learn, and understand better than they. Show that the use of his mind gives him power to excel them even in seeing and hearing, by means of the instruments he invents, such as telescopes and telephones. Show that the source of his power is his mind. Speak of man's use of fire, electricity, weapons, machinery, clothing, books, musical instruments, etc. Urge the importance of the cultivation of our mental powers.

This wonderful earth was given to man for his home, his comfort, and his pleasure. More and more every year he is subduing it and bringing it to his uses. The study of the earth as the home of man is called geography.

Geography tells us how to measure the earth, to find our way about upon it and how to use it, and the things which are upon it. It tells of the people that live upon it, their ways, how they live, and what they do.

Show how man is always seeking to promote the comfort of his kind, while beasts seek for their own immediate comfort only. Show how man improves everything. Compare cave dwellings with houses, and primitive clothing and implements with those in modern use. Compare ancient methods of travel with those of modern times. Show also the present difference between civilized and uncivilized people in these respects. Say that this is due to mental effort. Show how wild fruits have been developed into cultivated varieties, and how man sends all over the world for fruits, food, and clothing not to be found where he dwells.

Give pupils information concerning races of men; for instance, the white race is native to Europe, white people of America being descendants of early emigrants from its countries; black people are native to Africa, and those here are descendants of people kidnapped from their country and brought here at an early day as slaves; yellow people are native to Asia, and most of those who are in our country are visitors who intend to return; red people, or Indians, are the original inhabitants of America, but their race is disappearing before the advance of the more powerful white race.

LESSON 20.

The Home of Our People.

Do we live upon a continent or upon an island?

Upon a continent.

What is our continent called?

The Western Continent.

What two other continents are there?

The Eastern Continent and Australia.

Into what two parts is the Western Continent divided?

Into North America, where we live, and South America.

Why are we called Americans?

Because we live in America.

Was it always known to the people upon other continents that this continent existed?

It was not; for thousands of years people believed the earth to be flat, and no one dared to sail far from land.

Who believed that land could be found by sailing across the ocean?

Columbus.

Did he sail across the ocean?

He did.

What did he find?

The Continent of America.

In what country do we live?

In a country called the United States, which is a part of America.

ORAL EXERCISE.

Existed. Believed. Sailing.

Tell pupils how people were ignorant of geography and believed the earth to be flat, with an edge where ships would be lost if they approached it, and that far away terrible storms raged all the time and fearful monsters dwelt. No one had the courage or wisdom to sail directly westward across the wide sea until Columbus tried it. Tell the story of Columbus.

Show that for thousands of years the natives of America were just as ignorant of the existence of the Eastern Continent and its people, and tell how Indians, when they first saw white men, supposed them to come from another world and that their ships were strange birds.

Let pupils tell in what country they live, and in what State, county, and town.

Tell pupils that there are other nations and other people in America and across the ocean in other countries, and that there are other villages and cities in all parts of the earth. Tell them that in all directions, thousands of miles away, people live, work, eat, dress, and enjoy life, young and old, and that as we progress in this study we shall learn more about them and their ways.

LESSON 21.

Civilization.

What do all people seek to do?

To supply their wants.

What are the chief wants of human beings?

Food, clothing, and shelter.

What must man do to secure these?

He must work.

Do animals also want these?

They want food and shelter. Their clothing is supplied them by nature in the form of hair, fur, feathers, etc.

Do animals work for food and shelter?

They do; they gather food and search for or make places for shelter.



Are there people who seem to want only clothing, shelter, and food, much like animals?

Yes; they live almost as animals do and work but little.

What are they called?

Savages.

Are there people who want much better clothing, shelter, and food than savages?

Yes; they have higher wants, and work more to supply them.

What are such people called?

Barbarians.

What are those people called who have still higher wants, such as to own lands, houses, and other property, who want to enjoy life more, and who have more regard for decency?

They are called half-civilized.

What are those people called who have all these wants, and who also want books, music, pictures, etc., and who feel the need of things for the mind as well as the body?

They are called civilized.

ORAL EXERCISE.

Secure. Supplied. Property. Decency.

Place especial stress upon the meaning of the terms *clothing, shelter, and food.*

Explain that savage races dwell mostly in the torrid zone. Give some account of savage life in Africa, America, Oceania, etc. Illustrate such life among different races. Describe their implements, methods of preparing food, etc., and speak of their idolatry.

Show that animals require shelter, such as the hive of the bee, the hole of the rabbit, etc.

Savages live generally where such food as wild fruits, fish, and animals are plentiful, where huts of leaves, grass, and sticks will shelter them, and where little or no clothing is needed. In such countries it is so easy to get these things that the people can live without much effort; so they are lazy and careless. They have no desire for knowledge and refinement, are very ignorant, and their lives are like those of beasts, except that they use fire in preparing food.

Describe nomadic tribes and their modes of life, style

of tents, clothes, weapons, food, etc. Speak of them as people who have wants beyond those of the savage. They want more regular habits of living, more and better clothes, better shelter; and, living in countries where the climate is less favorable, these wants compel them to make greater and more skillful efforts to supply them. They have domestic animals, such as horses, camels, cattle, and sheep, which they rear and tend. They live mostly in tents and move about with their herds from place to place to find food for their animals.

These people having greater wants than those of savages, and more intelligent methods of supplying them, are called barbarians. They inhabit mostly the desert regions of Asia and Africa.

There are other people who want well-built houses of wood or stone, and better fruits, grain, and vegetables than can be found growing wild, and who cultivate the soil, and manufacture and use many things which barbarous people do not require, and who have some idea of law and government.

As barbarous people are more industrious than savage, so these people have more energy, and labor more for the comforts of life than barbarous people. They are called half-civilized.

Illustrate by stories and information concerning the Chinese. Explain that when people begin to feel the want of bodily comforts and improvement of the mind they begin to be civilized.

There is another class that wants all things which half-civilized people want, but in a higher degree. They want elegant clothing, fine houses, great variety of food, books, music, pictures, churches, schools, telegraphs, railroads, and all manner of implements and machinery. They have a desire for knowledge. These are civilized and enlightened people. There is no limit to the wants of enlightened people, and, as their labors are also unlimited, they have made themselves the most learned and powerful nations of the earth.

This class belongs mostly to the white race in Europe and America, and our people form a part of it.

LESSON 22.

Business.

Can a man do for himself all the work that is needed to provide for his civilized wants?

He can not; he could not be skillful in so many different kinds of work as his wants require.

Can a man usually do more than one kind of work well?

He can not; generally a man has learned to do but one kind of work well, and does no other kind.

Are there many kinds of work?

There are a great many in a civilized country like ours.

Name some of them.

Farming, mining, manufacturing, trading, professional work, etc.

What is farming?

The cultivation of useful plants and the raising of useful animals.

What is mining?

Digging minerals from the earth.

What is manufacturing?

Making things to meet the wants of people.

What is trading?

Exchanging the products of the farmer, the miner, and the manufacturer for other goods or for money.

What is professional work?

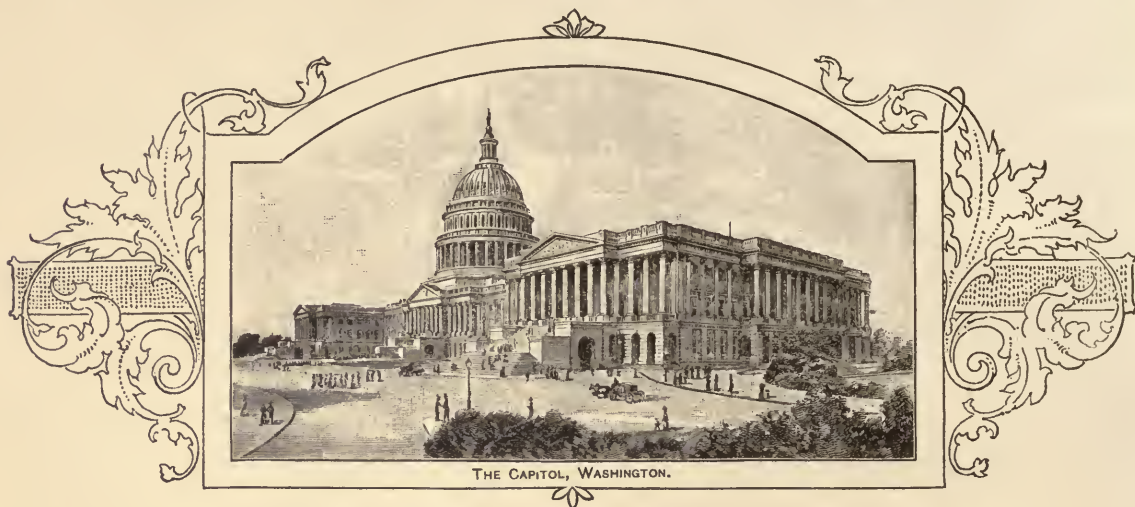
It is the work done by teachers, doctors, lawyers, clergymen, etc.

ORAL EXERCISE.

Provide. Skillful. Require. Products.

Minerals. Exchanging.

If, in providing for his wants, a man were to try to raise and grind all his own grain for food, spin all his own yarn, weave all his own cloth for clothes, build his own house, make his own shoes, print his own books, and do all things that his needs require, he would find his time so much divided that he would accomplish but little. Many



of his wants would not be met, or, if they were, the work would not be well done.

So among civilized people each man has his trade or occupation, which he follows all the time. One man is a farmer growing grain, another is a weaver making cloth, another is a shoemaker, another a blacksmith, another a printer, and so on through the long list.

Each man makes more of his particular kind of product than he can use, and what he does not want he exchanges with others for things he wants which they make. This exchange is called trade.

People following these occupations have, each in his own line, grown more skillful year by year, and have invented machines to help them, until now in our country all things which we need for comfort or pleasure are so plentiful and cheap that even poor people may enjoy many things kings did not have a hundred years ago.

The business of trading is called commerce.

Ask each pupil to name his father's occupation. Explain the details of each, or get each pupil to describe his father's work. Show how one business depends upon another.

LESSON 23.

Government.

How are idleness and disturbance prevented in school?

By the enforcement of rules.

How are crime and disturbance prevented among the people?

By the enforcement of rules.

What are the rules that govern people called?

They are called laws.

Who make the laws in our country?

The people.

How do they make them?

Through their agents, whom they send to meet at a city called the capital.

What are these agents called?

Senators and Representatives.

What is the body of Senators called?

The Senate.

What is the body of Representatives called?

The House of Representatives.

What officer is elected to enforce the laws made by the Senate and House of Representatives?

The President.

What is the Supreme Court?

A body of men called Justices, who decide questions of law.

ORAL EXERCISE.

Disturbance. Enforcement. Decide. Elect.

Just as children at school need rules for the welfare of the school, so people need rules to prevent wickedness and crime, and to promote the welfare of the public.

As there have always been wicked, selfish men disposed to rob and steal from the industrious, and even to commit murder and other crimes, so it is natural that people should have rules to prevent crime and to punish criminals. There are many things, too, which people do to help each other, such as building roads and establishing post offices, schools, etc.



PICTURE.

To prevent confusion in doing all things, and that fairness may be practiced by all men doing business, rules are established by the people. These rules are called laws. There are also rules for the making of laws. The making of laws and their execution is called government.

Savage and barbarous people, having no rules, have, therefore, little or no government; half-civilized have very imperfect and often unfair government; while civilized people have the fairest and the best.

Mention some of the State laws, such as the laws against crime, school laws, law for collection of debt, etc. Suppose a case of robbery, and show how the law provides for arrest, trial, and punishment. Ask what is the capital of the State and who is Governor, etc.

A people united and agreeing together in making laws, and living under and enforcing them, is called a nation. There are many nations in the world, but the greatest and best and most powerful is our own.

Mention some of the nations, giving characteristics of each. Explain the origin of our nation and trace its rise and the prosperity of our people, showing that all is due to wise government. Show how nations sometimes quarrel and how war is the result. Sketch our war of 1812 as an instance. Explain the different kinds of government—empire, kingdom, republic, etc.

LESSON 24.

Maps.

What is a map?

A map is a drawing of a portion, or the whole, of the earth's surface.

Is a map like a picture?

It is not; a picture shows how objects look, while a map only shows where they are.



MAP.

In a map of the country, which side represents the north?

The top.

Can a small map represent a large country?

Yes; just as a small picture may represent a large view.

What may a map represent?

The land and its shape, as capes, peninsulas, etc.; the ocean and its shape, as bays, straits, etc.; mountains, rivers, etc., on the land.

How are mountains represented?

By shaded lines.

How are rivers represented?

By crooked lines.

How are towns and cities represented?

By dots or small circles.

Can distance between places be indicated on a map?

Yes; one inch on the map may represent one mile of real country, or ten miles, or one hundred miles, or any distance, just as the map maker decides.

What is a scale on a map?

It is a straight line marked by the maker of the map to show how many miles its length represents on the map.

What is the surface represented by a map understood to be?

Upon land, plains, valleys, hills, mountains, etc.; and upon the sea, level water.

ORAL EXERCISE.

Represents. Indicated.

If the pupil is made to fully comprehend the answer to the second question, he will have a very good idea of the purpose and scope of a map. Make a map upon the blackboard; let a little ring represent the location of a city; say that this does not look like a city, it only shows on our map where a city stands. Draw a river line; say that this does not look like a river, it only shows where the river flows from, how it passes the city, and where it flows. Draw mountains, repeating this formula. Draw lakes, and a coast-line with bays, capes, etc., repeating the formula with each, until your map is completed.

Then say that one inch on this map represents ten miles of real country. Measure the map. From the city to the mouth of the river, as indicated, is, say, eight inches. Ask how far in miles that would be across the real country. The river line is, say, twenty inches long. How long is the real river? The mountains are shown on the map fourteen inches from the coast-line. In the real country what is the distance between the two in miles?

Continue this practice, either on the blackboard or on wall maps, until pupils thoroughly understand the use of a map and the theory of a scale.

Teach pupils to imagine that the area represented by a map has its features of surface.

LESSON 25.

Hemispheres.

What is a hemisphere?

A hemisphere is half of a globe, or sphere.

What is a map of a hemisphere?

It is a map of one-half of the earth's surface.

What part of the earth's surface is represented by the map of the Western Hemisphere?

The half which contains the Western Continent.

What part is represented by the map of the Eastern Hemisphere?

The half which contains the Eastern Continent.

What does the point at the top represent?

The north pole.

At the bottom?

The south pole.

On the maps there is a line running around the earth east and west just half way between the poles. What is it called?

The equator; it divides the earth into north and south halves.

There is a line north of it. What is it called?

The tropic of Cancer.

What does it separate?

It separates the torrid zone from the north temperate zone.

There is another line south of it. What is that line called, and what does it separate?

It is called the tropic of Capricorn, and it separates the torrid zone from the south temperate zone.

What line runs around the earth near the north pole, between the north temperate zone and the north frigid zone?

The arctic circle.

What line like it runs around the earth near the south pole, between the south temperate zone and the south frigid zone?

The antarctic circle.

Are these real lines marked on the surface of the earth, or only imaginary lines?

They are imaginary lines.

ORAL EXERCISE.

Circle. Contains. Imaginary.

Show that the circles mentioned in this lesson all pass directly east and west, crosswise to north and south. Much depends on pupils being thoroughly grounded in knowledge of direction, as indicated on maps.

Show that the earth may be divided into north and south hemispheres, as well as into east and west, but explain that it is usually divided into east and west sections. Split an apple in halves and show that each half is a hemisphere.

In discussing zones see that the pupils do not erroneously suppose that the temperature is the same in all parts of the same zone. Explain that naturally that part of the zone nearest to the equator is the warmest.

LESSON 26.

The Western Hemisphere.

What continent lies upon the Western Hemisphere?

What two grand divisions on this continent?

Make a dot on the part of North America where we live.

In what direction does South America lie from North America?

Which lies farther east on the map?

In what direction does North America lie from the equator?

Find the equator.

In what direction does it extend?

Where is the north pole?

Where is the south pole?

Which grand division is crossed by the equator?

In what zone is most of North America?

South America?

Is the climate hot or cold in the northern part of North America?

In the southern part of South America?

Why?

In what zone do we live?

What is the great extent of water west of both North and South America called?

East of the same?

What ocean north of North America?

Near the south pole?

Count the large islands on the map.

Count the large bays and gulfs.

Point to some rivers shown on the map.

In the turning of the earth, which way does America go?

WESTERN HEMISPHERE.



SOUTHERN HEMISPHERE.



NORTHERN HEMISPHERE.



Reed, McVally & Co. Publishers, New York. Geography Map of the Western Hemisphere. Copyright, 1891, by Reed, McVally & Co.

EASTERN HEMISPHERE.



WATER HEMISPHERE.



LAND HEMISPHERE.



Rev. L. McNally & Co's Primary School Geography Map of the Eastern Hemisphere. Copyright, 1901, by Rev. L. McNally & Co.

LESSON 27.

Eastern Hemisphere.

What great body of land lies in the Eastern Hemisphere?

What other continent?

What two grand divisions lie wholly in the Eastern Hemisphere?

What two lie partly in each hemisphere?

Of what grand division is the Continent of Australia a part?

Name the oceans of the Western Hemisphere which extend into the Eastern Hemisphere.

On which side of the equator does most of the land lie?

What continent lies entirely south of the equator?

What large body of land is crossed by the equator?

Has Europe a broken or unbroken coast-line?

What kind of coast-line has Africa?

In what zone is most of Europe and Asia?

In what zone is most of Africa?

What is the climate of Africa?

Is it warm or cold in the countries near the poles?

Do you think it colder at one pole than at the other?

What ocean is in the middle of the Eastern Hemisphere?

To what grand division do the islands belong which lie between Asia and Australia?

Count the systems of mountains.

Count the large islands.

Count the gulfs and large bays.

In which does morning appear first, Australia or Southern Africa?

Why?

How many miles is it across a hemisphere at the equator?

How many miles from the equator to either pole?

What ocean must be crossed to sail from Africa to Australia?

Find the six grand divisions on the two maps — North America, South America, Europe, Asia, Africa, Oceania.

Which grand division is the largest?

Learn the list of grand divisions by heart.

Which hemisphere contains the most land?

Which is the larger ocean, the Atlantic or Pacific?

ORAL EXERCISE.

Have pupils refer to the maps on page 24 and indicate upon these maps where the zones are. Turn to maps of Europe, Asia, etc., and make them realize that they are maps of the same grand divisions which appear upon the hemisphere maps. Refer to the scales in explaining the difference in size. Show that each small map represents half of the surface of the globe.

Explain that Oceania is composed of the Continent of Australia and the islands inclosed by the dotted boundary line on both hemispheres.



LESSON 28.

North America.

With your teacher's help, place a dot upon the map of North America to indicate where you live. North America is the north grand division of the Continent of America.

In what zone is the northern part?

The middle part?

The southern part?

West and sweeping around to the south is what ocean?

East is what ocean?

What long, narrow peninsula extends westward from the northwest part?

What long peninsula extends southward from the southwest part?

What long gulf is there between that peninsula and the mainland?

What peninsula in the south extending northward?

What peninsula not far from that on the southeast extends southward?

What very large, round gulf is between these peninsulas?

What peninsula on the east is very nearly surrounded by water?

How could it be made an island?

What island north of this is nearly a peninsula?

How could it be made a peninsula?

What gulf is between this peninsula and this island?

What great bay is near the middle of the northern part of North America?



Where is Greenland?

What great bay is between North America and Greenland?

Are there any islands between North America and Greenland?

What island is in the northeast near Greenland?

What row of islands near the southeastern part, not far from the peninsula of Florida?

In what direction does the row extend?

Name the two largest.

What strait in the northwest through which a vessel must pass to reach the Arctic Ocean from the Pacific?

LESSON 29.

North America.

Where is the great mountain system of North America?

Which way does it extend?

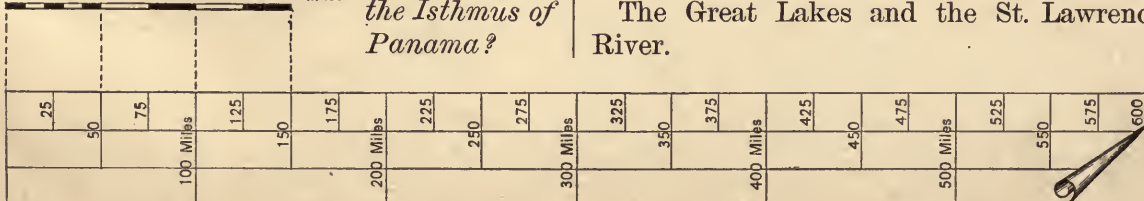
Does it reach the whole length of the Grand Division?

Look on the map of the Western Hemisphere and you will see that this mountain system extends through the isthmus which connects North and South America as far as the southern end of the continent. What is the name of that isthmus?

Scale: 100 Miles to 1 Inch.

10 20 30 40 50 75 100 125 150 Miles.

How wide is the Isthmus of Panama?



What is this great mountain system called in North America?

The water that falls in rain on the west side of these mountains flows which way to reach the ocean?

What ocean does it reach?

Into what ocean does the water drain which falls upon the eastern side of these mountains in the north? (You can see by the course of the rivers.)

What other system of mountains do we find?

Where is it and in what direction does it extend?

To what ocean does its eastern slope lead?

Into what valley does its western slope lead?

What country reaches across North America from ocean to ocean in the middle part?

What country lies north of the United States?

What country northwest of the Dominion of Canada belongs to the United States?

South of the United States is what country?

South of Mexico is what country?

What river forms part of the boundary between the United States and Mexico?

What waters form part of the boundary between the United States and the Dominion of Canada?

The Great Lakes and the St. Lawrence River.

NOTE TO TEACHER.—As a class exercise have the map measured freely by scale-slips.

Prepare for the pupils a measure for this map made from a slip of paper or card-board about half an inch wide, marking it into spaces according to the scale-line given on the map. (See cut of model scale-slip given on the preceding page.)

Cause the class to measure the dimensions of the map, the length of its rivers, mountain chains, coast line, distances between cities, size of political divisions, etc. *They need not memorize the results.* The practice will familiarize them with the map and impress its appearance upon the memory. Besides, it cultivates the perceptive faculty and leads the pupil to form a habit of close observation.

Make a scale-slip for each map, as the class reaches it, based upon the scale of the map. Do not neglect the measuring exercise, which, with pupils of this grade, is perhaps more beneficial than map-drawing, as by this means they will be able to form more correct ideas of the size of countries.

LESSON 30.

North America.—Continued.

How long has North America been known to the world?

About four hundred years.

What is the shape of North America?

It is triangular, or three-cornered.

How long is it?

More than five thousand miles.

How wide is it?

More than four thousand miles in the north, narrowing to about fifty miles at the Isthmus of Panama in the south.

What is its climate?

It has all kinds of climate, from the intense heat of Central America in the torrid zone to the extreme cold of the frigid zone in the north.

What course would a vessel take to sail from the east coast to the west coast?

It would sail around South America.

Why could it not sail around the north end of North America?

Because the cold and ice would prevent her getting through.

What important plants were first found in North America?

Indian corn, tobacco, cocoa, and the pineapple.

Mention some animals found only in North America.

The bison, musk ox, grizzly bear, alligator, and wild turkey.

What race inhabited the country when it was discovered?

The red, or Indian, race.

What race now inhabits it?

The white race.

How are the first inhabitants supposed to have reached North America?

By crossing Bering Strait on the ice from the Eastern Continent.

Do many people live in the extreme northern part?

Only a few, as the climate is so cold.

To what country do Greenland and Iceland belong?

To Denmark.

ORAL EXERCISE.

Inhabits. Intense. Extreme.

Explain that North America, though called the New World, is geologically older than Europe.

Mention the fact that both North and South America

are triangular in shape, and that both have as a great western wall a part of that same long system of mountains which extends from Cape Horn northwesterly to the extremity of the peninsula of Alaska.

Show also that the Grand Divisions are alike in having lesser ranges lying near the eastern coast, and that both have vast central valleys drained by the greatest river systems of the earth. Make imaginary journeys across the continent, noting the mountain ranges crossed; also northward from the Gulf of Mexico, noting that no mountains are crossed.

About nine-tenths of North America lies in the temperate zone. That portion in the torrid zone lying between the oceans (Mexico, Central America, etc.) is so narrow and so high among the mountains that sea winds and altitude modify the torrid climate, so that it is generally temperate.

Tell the class about attempts to find a northwest passage for vessels from the Atlantic to the Pacific, through the channels north of America and Bering Strait.

There is no longer any reason for seeking such a route, as railroads across the continent now carry most of the freight and passengers between the eastern and western coasts. Tell about the several Pacific railroads.

Mention the proposed canals across the narrow part of the continent, and show how such canals would enable vessels going from the Atlantic to the Pacific to avoid the long voyage around South America.

Discuss with the class the animals of North America and the parts in which they live.

Give the class an account of the Indians, their habits, modes of life, etc., and how as a race they have nearly passed away. Speak of ancient cities in southwestern United States, Mexico, and Central America. State that there are reasons for believing that the ancestors of the people who built these ruined cities came to this country across Bering Strait.

LESSON 31.

The United States.—History and People.

Why is our country called the United States?

Because in the beginning there were thirteen States which *united* to form a nation.

When was this done?

In the year 1776.

Then how old is our nation?

Why do we celebrate the fourth of July?

Because that was the day in 1776 on which our forefathers declared this to be a nation.

How many States has our nation now?

Forty-four States and six Territories.

What is the capital?

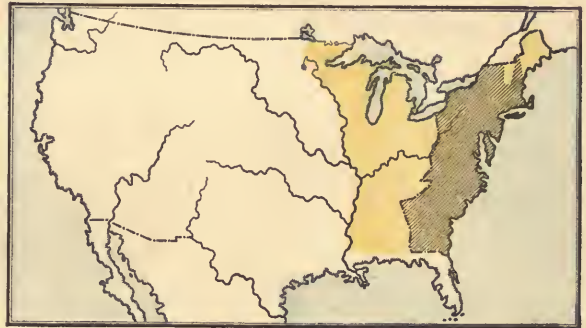
Washington, in the District of Columbia.

How many people had our nation when it was first established?

Less than three millions.

How many has it now?

More than sixty-eight millions.



ORIGINAL THIRTEEN STATES SHOWN BY SHADED AREA.

To what nation did the thirteen colonies belong before they became the United States?

To the English nation.

Were most of the people of English descent?

They were; and the English language is the language of this country.

How many people of the black race are there in this country?

About seven millions of Negroes, descendants of people who were brought from Africa as slaves.





Longitude West from Greenwich.

Key West.

75° Copyright, 1894, by Rand, McNally & Co.

Are there any slaves in our country now?

No; all slaves were made free by law in 1865.

Is all of our great white population descended from the English?

No; much of it consists of immigrants from various countries, and their descendants.

What is the government of this nation?

It is a republic.

Enable pupils to form some idea of a million by means of the following illustration: Let one of them count the number of scholars in the room, pointing at them one by one, and repeating them if necessary, until he shall have counted for one minute. It will be seen that in that time he has reached about 100. Now show, by simple multiplication on the blackboard, that 100 per minute equals 6,000 per hour; so that counting steadily during a school day of six hours the amount will equal 36,000. This number is contained in one million about twenty-eight times; it would therefore take very nearly one month to count one million.

Show them that if they were to count the population of the United States in this manner it would require about six years to do so.

Encourage the application of arithmetic to geograph-



UNITED STATES NAVAL VESSEL "MINNEAPOLIS."

ORAL EXERCISE.

Forefathers. Colonies. Declared. Descent. Immigrants. Consists. Descendants.

Establish the distinction between the United States as a country and as a nation. Show that a nation is a people, while a country is its dwelling-place. Give the early history of the establishment of the nation—thirteen colonies subject to Great Britain; Revolution; Declaration of Independence; colonies becoming States. Tell how, from time to time, States were added until the present number was reached.

Illustrate the magnitude of our country by showing that England is only as large as New York State, Ireland as Maine, and Scotland as South Carolina. Our State of Texas is as large as either France, or Spain, or the German Empire, with England added.

ical study whenever it is possible, explaining to them that the science of numbers is indispensable in treating of the earth we inhabit, as in reckoning longitude and latitude, and determining distances.

Explain that a Territory is controlled by the General Government instead of by its own people like a State. Speak of the District of Columbia, which is under the immediate government of Congress.

Speak of the nationality of our immigrants. Ask each pupil from what country his ancestors came and what is the language of that country. This will create in pupils a desire to know more of Great Britain, Germany, Sweden, France, Italy, etc.

Show that as the people elect their own law-makers it is necessary they should be educated, that they may make an intelligent selection. Therefore free schools are maintained in every State that all may have ample opportunity to obtain an education.

Explain how immigrants become citizens by living in our country a certain length of time, asking to be made citizens, taking oath that they have ceased to belong to their old nation, and will in future belong to this.

LESSON 32.

The United States.—Extent and Outline.

In lessons on the United States, pupils are to refer to both the general and the sectional maps.

Is the United States a large country?

It is one of the large countries of the earth.

What kind of a coast has it?

Very uneven on the east, but regular and even on the west.

What is meant by an uneven coast?

One in which there are many points of land extending into the ocean, and many portions of the ocean extending into the land.

How are the inlets of water, such as bays, etc., useful to man?

They are generally good harbors.

What is a good harbor?

A place where vessels can be protected by the land from the heavy winds and waves of the ocean.

When do vessels seek these harbors?

When they are to be loaded or unloaded, or when they need shelter from storms.

Describe the water boundary on the north.

The Great Lakes and the St. Lawrence River form a fresh-water boundary for a long distance between our country and Canada.

Can vessels pass through these bodies of water?

Yes; vessels may load on any of the Great Lakes and reach the ocean through the St. Lawrence river. (See map, page 73.)

What river forms part of the boundary between our country and Mexico?

The Rio Grande.

How are boundaries between countries marked where there are no rivers or lakes to be used?

By posts set up in the ground.

When lakes are the boundary, how is it settled between the two countries how the lake surface shall be divided?

By agreement, so that about one-half the water surface goes to each country.

Are mountains sometimes used as boundary lines?

They are; the line generally runs along the top of the highest ridges.

ORAL EXERCISE.

Protected. Agreement. Boundary.

Explain to pupils that maps of different countries of the earth are made upon different scales, and that their comparative size is not to be judged by the size of the maps on the various pages of the book, except through scale measurement.

Show that a nation, that is, the people, may not be very large in number, while the country belonging to the nation, or people, is great in extent, and again that the number of people may be large, while the country is small. The Dominion of Canada adjoining us is larger in area than our country, excluding Alaska, yet it has but about five million inhabitants. Our country has more than sixty-eight million inhabitants, while Germany has nearly fifty million people with a country only one-fifteenth as large as ours. If our country were as thickly populated as Germany we should have seven hundred and fifty million inhabitants.

It is largely because Europe is so crowded and it is difficult to earn a comfortable living there, that so many

of its people come to our country, which is not crowded. Here they make homes wherein they may live in comfort and prosperity.

Explain the use of a harbor by showing that just as a boy may go to the leeward side of a house, or fence, or hill to escape the force of the wind, so a vessel in entering a harbor seeks to get behind the hill to be sheltered. Show that the land which nearly surrounds a good harbor also breaks the force of the immense waves during a storm. Show that when a terrible storm is raging on the unprotected coast, within a harbor the water may be tranquil.

Explain that when people from the Old World first began to come here they found some good harbors and selected them as places for settlements, and in this way our coast cities began. In this connection sketch Boston, New York, Philadelphia, Baltimore, etc.

Show that as farms are separated from each other by fences or surveyed lines with boundary marks, so townships, counties, States, and nations have their divisions marked off. *Natural* boundary lines are coasts, streams, and mountains. *Artificial* boundary lines are rows of posts or monuments placed by surveying parties.

In ancient times people sometimes built huge walls for boundaries, as the Roman wall between England and Scotland and the Chinese wall in Asia.

On the coast the water surface belongs to the bordering country for three miles from the shore. Outside of this line the ocean belongs equally to all nations.

western coast. It is a part of the great Rocky Mountain system.

Where are the highest ridges?

On the outer edges of the great mountain strip.

Is there a valley between these ridges?

Yes; the land slopes away from each toward the other, forming a valley.

Does this valley lie higher above the ocean level than the great valley to the east of it?

It does; it is a high plain, and because it is high it is called a plateau, or highland.

What is the name of this plateau?

The Pacific Highland.

Is this highland smooth or rough?

It is mostly mountainous, but contains some wide, level plains.



CROSS SECTION FROM THE PACIFIC OCEAN TO THE MISSISSIPPI RIVER.

LESSON 33.

The United States.—Surface.

In our study of the map of North America we learned that along the western coast many ranges of mountains extend for the full length of the whole grand division, and that these many ridges and ranges form a great mountain system. About how much of the United States is covered by this system?

About one-third.

What is the Sierra Nevada range?

It is a great range, sometimes called a system, which follows the line of our

Which way is the slope on the west of the Sierra Nevada range?

It is down-hill from the mountains to the ocean, and is narrow and steep.

What is that slope called?

The Pacific Slope.

What other system of mountains has the United States?

The Appalachian system. It is in the east, running from the northeast to the southwest in a line with the coast.

What is its slope toward the ocean called?

The Atlantic Slope.



Between the Rocky Mountains in the west and the Appalachian Mountains in the east is a vast valley made by the slopes from each. What is this valley called?

It is nearly level and is called the Great Central Plain.

This great plain slopes from the sides toward the Mississippi River. What is its slope between the northern boundary of the United States and the Gulf of Mexico?

The general slope is to the south.

Is there a northern slope to our country?

Yes; a narrow strip along the Great Lakes and the St. Lawrence River slopes toward those lakes and that river.

ORAL EXERCISE.

Various. Vast.

Explain that the western third of our country has been the latest to develop, on account of the difficulty of reaching it, and the fact that it is not naturally well-adapted to farming. There must be something to tempt people to settle and live in a new country. The drift of settlement westward was checked for a long time by the Appalachian Mountains; but when the tide of emigration had crossed that natural barrier, territory after territory was settled by people in search of good farming land. Such favorable land extends nearly across the Great Central Plain toward the mountain country, and has now



CROSSING THE ROCKY MOUNTAINS.
OLD AND NEW METHODS.

been generally settled, brought under cultivation, and crossed by many railroads.

California, a mountainous country, was settled at an early date under the inducement offered by the discovery of gold there. It was soon found that it offered advantages also for the cultivation of fruits and grain; so it became peopled and was made a State.

People also settled along the northern part of the Pacific Coast, because of its fine climate and the natural advantages of the country.

It was difficult to reach the Pacific Coast, as it involved either a toilsome journey across the wide, mountainous tracts, or one by way of Panama, or a long voyage around South America. So at length by government aid a railroad was built to California. When it thus became easier to explore the Rocky Mountain country, it was found that it was rich in gold, silver, copper, iron, coal, petroleum, etc., and that farming was profitable. These discoveries caused people to settle in the great Pacific Highland, so that now, throughout the whole mountain region of the West, are flourishing States and Territories, and a wealthy people.

LESSON 34.

The United States.—Drainage.

How can we tell by the map that the slope east of the Appalachian Mountains is toward the Atlantic Ocean?

By the rivers; they all flow in that direction.

Which way do the rivers on the west side of these mountains flow?

Mostly toward the northwest.

What large river flows southwest into which these rivers flow?

The Ohio River.

What do these rivers prove?

That there is a slope from the mountains toward the Ohio River.

Do any other rivers flow into the Ohio?

Yes; a number of rivers rise near the Great Lakes and flow southward into the Ohio.

What does this show?

That there is a valley between the lakes and the mountains drained by the Ohio and its branches.

Into what great river does the Ohio pour all the water which it receives from this valley?

Into the Mississippi River.

Describe the Mississippi River.

It rises about midway in, and very near the northern edge of, the United States and flows south to the Gulf of Mexico; it is joined by many rivers on either side.

What great river flows into it from the west?

The Missouri.

What other great river?

The Arkansas.

Which way does the drainage flow from the land between the Mississippi River and the Great Lakes?

It flows through several rivers westward into the Mississippi.

Then which way does the land slope?

Many rivers rise on the eastern side of the Rocky Mountains. Which way, and into what river, do they flow?

They flow eastward into the Mississippi River.

Then how does the land slope from the Rocky Mountains?

It slopes toward the east.

Count the sources of rivers whose waters reach the Mississippi from the east.

Count those from the west.

Count the rivers from Florida to the Rio Grande flowing into the Gulf of Mexico.

Which way does the land slope all around the Gulf?

Into what ocean do most of the waters of the Pacific Highland drain?

Through what two rivers and their branches do these waters flow?

ORAL EXERCISE.

Midway. Sources.

Have an exercise in which rain-storms are supposed to cover extensive areas as represented upon the map; as, for instance, one in the Missouri River basin, another in the Ohio Valley, etc. Pointing to various parts, ask which way the water would flow, and into which rivers, etc., and by what course it would finally reach the ocean.

Mention the fact that in some portions of our own and foreign countries the rivers are turbid and muddy, while in other parts they are bright and clear. In fact, the same river may be for a large part of its course a stream of clear and sparkling water, and then may change its character entirely.

This difference is due to the character of the ground through which it flows. In a mountainous, gravelly country the water takes up but little earthy matter, while in a clayey or alluvial ground the water carries much solid matter in suspension.

The Missouri, while it remains a mountain stream, is beautifully clear, but when it leaves the mountains and takes its course through alluvial valleys, it gathers up and carries along so much earthy matter that it is popularly called the "Big Muddy."

Millions of tons of earth are carried into the Gulf of Mexico by the Mississippi River. Indeed, for many miles the land has been extended into the Gulf by this deposit of earthy matter.

It is common all through our western country to see where an ordinary creek has, year after year, cut and carried away the soil of its bed, until, by this action, it has worn its way downward many feet.

The Grand Canyon of the Colorado in Arizona has cut its channel down in this manner until it flows a full mile below the surface of the country.

The face of nature has been changed by this action of water carrying earth in suspension. In this way hills and mountains have been washed away to the rocks, and valleys filled and made fertile.

LESSON 35.

The United States.—Climate.

What is important in considering climate?

The degree of heat or cold, or the temperature.

Why is temperature very important?

Because it controls plant life.

In what part of our country do we have very long, warm summers?

In the southern part.

Where do we have short, warm summers?

In the northern part.

Do some plants require a longer season of warm weather than others?

They do; some plants need an early start in the spring and a long, warm season in which to ripen, while others grow very quickly.

Do some plants thrive best where the growing season is not very warm?

Yes; many plants which grow well in the North do not thrive in the South.

Is our great variety of climate important to us?

It is; for nearly all plants useful to man may be grown somewhere in our country.

Does temperature affect animals?

Yes; some animals can live only in a cold climate, while others can live only in a warm climate.

What is the principal reason why man can live in all climates?

He can wear thin clothes or thick ones, as his needs require.

What causes a hot or cold climate?

The distance from the equator and height above the sea-level.

Does any other cause affect the climate?

Yes; winds from the ocean make the weather cooler in the summer and warmer in the winter.

How long is the growing season in the Gulf States?

The whole year. Frosts very rarely occur.

How long is the growing season in the northern line of States?

Only about four months.

Will corn grow in the northern row of States?

It is not a safe crop, because frost is likely to kill it before it ripens—the season is too short for it.

Will wheat grow where the season is too short for corn?

Yes; it grows in a shorter time and is not easily killed by the frost.

How does the growing season vary?

As we go south the spring opens earlier and the autumn lasts longer.

Does the climate vary much from east to west?

Only as it is affected by elevation of land and by sea winds.

Which has the better climate, the northern States in the East or the northern States in the West?

The northern Pacific States are warmed by ocean winds, so that their climate is much milder than that of States opposite on the Atlantic Coast.

ORAL EXERCISE.

Considering. Important. Affect. Elevation. Controls.

Say that a thermometer is an instrument for measuring temperature. Teach pupils by the cut on this page to read a thermometer. Explain that heat expands the mercury or alcohol in the bulb so that it rises in the glass tube, and cold contracts it so that it falls.

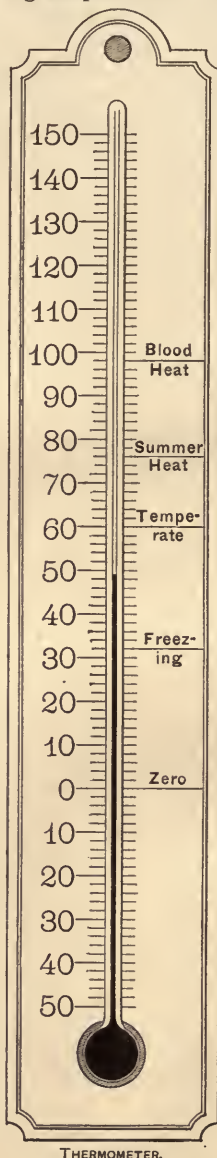
The point marked thirty-two degrees above zero is reached by the mercury when it is just cold enough to freeze water, and it reaches 212 degrees above zero when it is just hot enough for water to boil, so that there are 180 degrees between the freezing and boiling points.

At zero, which is thirty-two degrees below the freezing point, all young boys and girls enjoy outdoor sport, like skating; but below thirty-two degrees the weather becomes uncomfortable, and at twenty degrees below zero most people prefer to be in-doors.

Seventy degrees above zero, or thirty-eight degrees above the freezing point, is very comfortable in summer or in any other season. Much above that, the temperature becomes uncomfortable, and at 100 degrees, which is intensely warm, people and animals suffer extremely. There are some places on the earth where the heat is too great for men to dwell, although they may endure it for a time without great danger.

People are affected by heat differently as they are natives of hot or cold countries. The Eskimo, living in the frigid zone, can bear extreme cold, but suffers from moderate heat, while the East Indian, or any native of the torrid zone, can bear great heat, but suffers from even moderate cold.

Animals are much affected by changes from one climate to another. The white bear could not survive a season near the equator, and the elephant, tiger, monkey, etc., natives of the hot climates, would perish if exposed to one of our northern winters.



THERMOMETER.

The difference between our northern summer and that of the South is in length rather than in the degree of heat. The northern summer, while it lasts, is about as warm as that of the South.

In considering climate, account is taken of rainfall as well as of temperature. On the Pacific Highland and a portion of the slope eastward the rainfall is insufficient for vegetation, and consequently much of the country is like a desert, but little vegetation being found there, though some wild grass grows. The soil is good and the seasons favorable in this dry belt, and where water is supplied by ditches from the rivers the land yields wonderful crops.

LESSON 36.

The United States.—Industries.

What controls the industries of the country?

Its natural conditions.

What conditions favor farming?

A rich soil, plenty of sunshine and rain, a proper length of season, and a smooth country.

Where do we find these conditions in the United States?

In the Great Central Plain.

What business, then, do the people mostly follow in this region?

Their business chiefly is farming and stock-raising.

Where are the great grazing or pasture lands of this region?

In the western part, along the base of the mountains.

Why do people there attend to grazing rather than to raising crops?

Because there is not rain enough for crops, though grass grows there.

What condition favors mining?

A country where the layers of rock are broken and turned up so that people can see where the mineral is.

Where do we find this condition?

In mountainous regions.

What, then, is the principal business in our mountainous regions?

Mining.

What minerals are found in the Appalachian Mountains?

Iron, coal, zinc, and salt.

In the Rocky Mountains?

Gold, silver, quicksilver, tin, copper, lead, iron, and coal.

What other mineral is found in both systems?

Petroleum, or rock-oil.

What conditions are favorable to manufacturing?

Water-power, coal or natural gas for steam-power, and easy carrying.

Where are these conditions found?

North of the Ohio and Potomac rivers, and east of the Mississippi.

What other industries in the United States are important?

Fishing and commerce.

How extensive is the fishing industry?

It is greater than that of any other nation.

Where is it mostly followed?

Along the northern part of the east and west coasts.



SCENES ON THE WESTERN PLAINS.

ORAL EXERCISE.

Industries. Conditions. Profitable.

Explain that in associating certain industries with various parts of the country we do not mean that no others are followed there. In farming regions some manufacturing is done, and in manufacturing regions some farming is done. But in the Great Central Plain farming is so favored by natural conditions that it pays best and is the leading business, as manufacturing is in the north-eastern part of our country. So among the mountains, though mining is the principal work of the people, some farming and some manufacturing are carried on.

Much good and profitable farming is done upon the Pacific Slope, and much is also done along the entire southern part of the Atlantic Slope.

Grazing is a branch of farming. It is the raising of cattle. In the western part of the Great Central Plain, and over a large part of the Pacific Highland, it is an important industry.

There may be minerals of all kinds hidden away in the earth in various places under level countries, but they are hard to find. Men might dig into the rock thousands of times and find no minerals; but in the mountains layers of rock, that once lay miles below the surface, are turned up edgewise in such a way that mineral veins may be seen without digging, and it is here that men search for and find them.

There are places not among mountains where great deposits of coal, iron, copper, salt, etc., have been found. Near the Great Lakes are wonderful stores of iron and copper, and in Kansas are millions of tons of salt; yet these are not mountainous regions.

At an early period most manufacturing was done in New England. That part of the Atlantic Slope abounds

with rivers having many falls. These falls are made to turn wheels which run machinery.

The raw materials could be obtained within a short distance, and the market for finished products was near at hand. But as the country grew in population westward, it was found that many articles could be made to better advantage in States farther from the coast; so manufacturing has extended in that direction and now much of it is done as far west as the Mississippi.

Most of such work is done north of the Potomac and Ohio, though iron and cotton goods are now made in great quantities south of those rivers.

Within the last quarter of a century manufacturing has increased in our country wonderfully, and we now need to import but comparatively few goods.

LESSON 37.

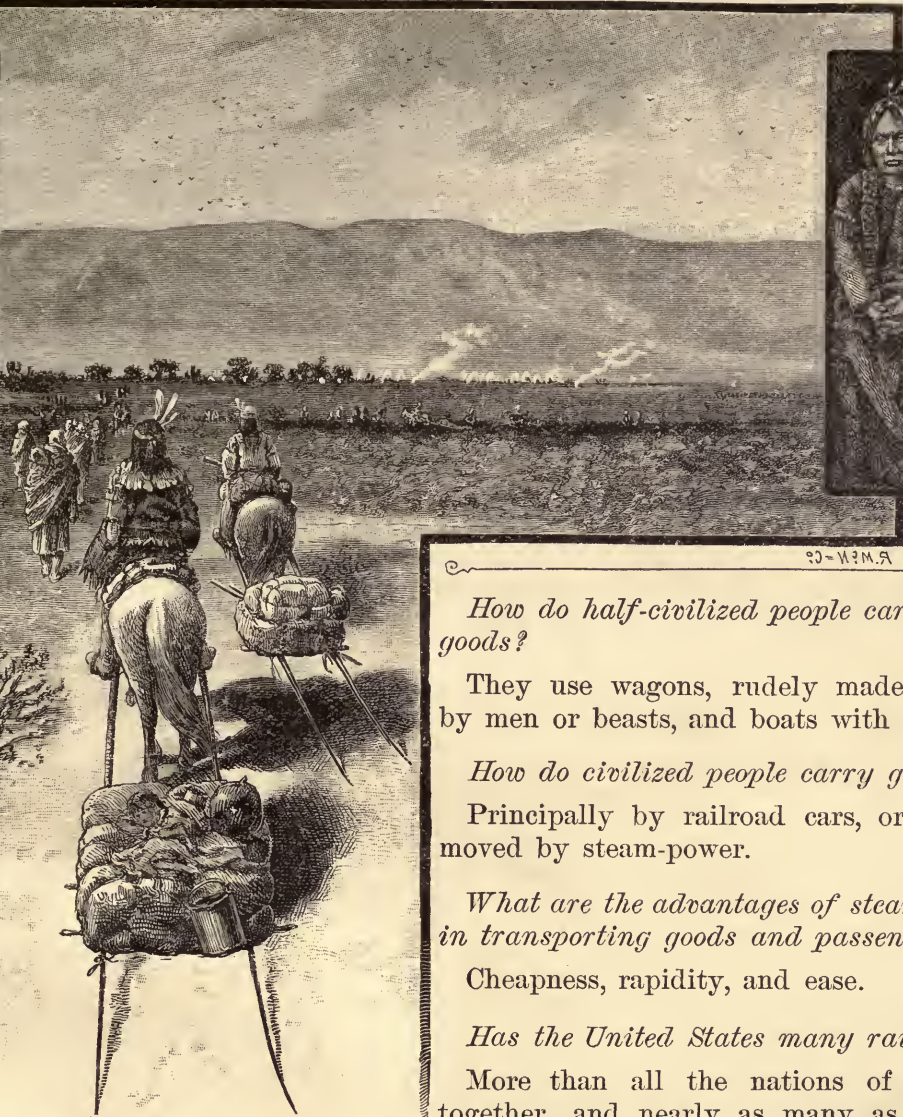
The United States.—Industries— *Continued.*

Upon what does the comfort of civilized people largely depend?

Upon the ease with which they can obtain from a distance products which they need.

What is the moving of products from one place or country to another called?

Carrying, or transportation.



INDIAN METHOD OF MOVING GOODS.

Is carrying done by people of all degrees of civilization?

Yes; but the more civilized the people, the more carrying they require.

How do savages and barbarous people carry goods?

They carry them themselves, or on the backs of animals or slaves, or in canoes.

How do half-civilized people carry their goods?

They use wagons, rudely made, drawn by men or beasts, and boats with sails.

How do civilized people carry goods?

Principally by railroad cars, or vessels moved by steam-power.

What are the advantages of steam-power in transporting goods and passengers?

Cheapness, rapidity, and ease.

Has the United States many railroads?

More than all the nations of Europe together, and nearly as many as all the rest of the world.

How extensive is the use of steam vessels in our country?

Greater than that of any nation except Great Britain.

How do railroads benefit a country?

They bring distant parts nearer together as regards time.

How far was San Francisco from New York before railroads were built?

By water, around South America, it was more than a hundred days' travel, and by wagon, across the continent, it was about the same.

How far is it now between those cities?

It is less than five days' travel by rail.

Does quick and cheap transportation increase the value of farm land?

It does; because it enables the farmer to sell his crops to people at a greater distance.

Does such transportation benefit people generally?

Yes; because it cheapens the cost of all goods which must be brought from a distance.

ORAL EXERCISE.

Obtain. Advantage. Extensive. Benefit.

Civilized people want many things not necessary to life, but which add much to its comfort and pleasure. Frequently such things are not products of the home country, and are to be obtained by it only from a distance. Coffee, tea, and spices, for instance, grow in countries far from our own, and if used here must be brought to us. In the same way things which are produced in one part of our own country, and which are used in another, must be carried there.

So much of this carrying must be done that it has become a very great business, and many thousands of people are engaged in it, vast sums of money being invested in railroads, steamships, and canals.

In the early days all land transportation of both goods and passengers was by wagon. It was impossible to do carrying cheaply in that way, and so people had few things that were not produced near at hand.

At that time it cost as much to move a bushel of wheat twenty miles as it now costs to move it a thousand miles. Rich lands of the West were not tilled because it would cost so much to move the crops to where consumers lived that their entire value might be used up in carrying expenses.

But when railroads were established all this was changed, and it cost so little to move wheat, corn, etc.,

long distances, that these products of Western lands could be sold for low prices in the East, and thus these lands became valuable. So generally have railroads been built in our country that in some States scarcely a house is far enough from a railroad to be beyond the sound of the locomotive whistle.

Much of our trade with the countries of Asia is done by way of the railroads across the continent.

Wheat may now be shipped from Chicago on Lake Michigan to Europe at a cost of about nine cents per bushel, which is less than it would cost to haul it by wagon a distance of twenty miles.

Much of our wonderful growth as a nation is due to our great railroad systems.

LESSON 38.

The United States.—Commerce.

The farmer produces more grain, beef, pork, etc., than he needs. What is that part called which he does not need?

The surplus.

But there are many things he needs which he does not produce, such as clothing, tools, groceries, books, etc. How does he get them?

He sells his surplus, and with the money received he buys them.

Do manufacturers, miners, fishermen, lumbermen, etc., have a surplus, and do they want other things as the farmer does?

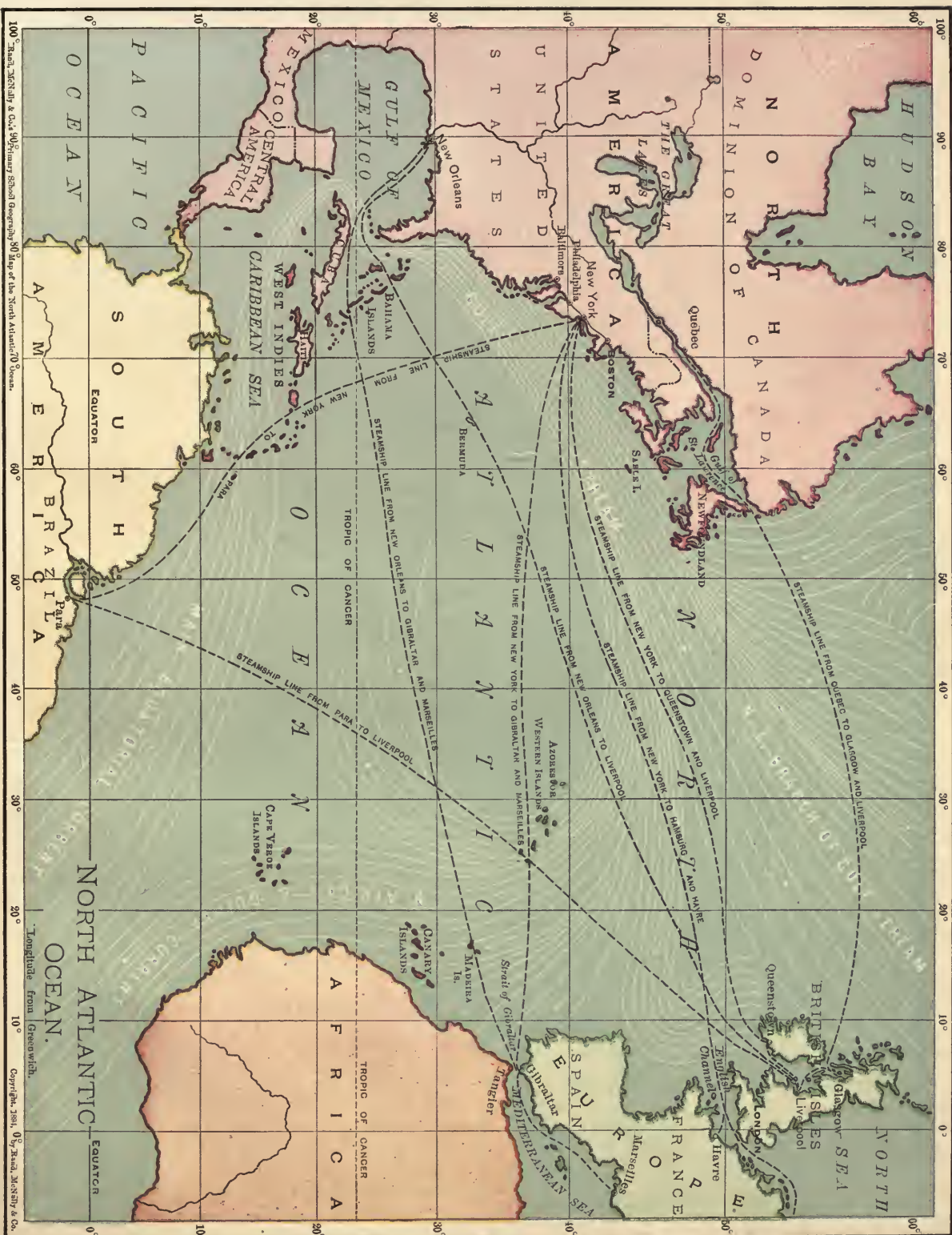
Yes, and they sell their surplus and buy just as he does.

How does the professional man procure what his family needs?

He receives pay in money for his work and buys all things to supply his wants.

Is the buying and selling and exchanging of goods a business?

It is, and it is called commerce.



What is a man called whose business is commerce?

A merchant.

Is commerce extensive in our country?

Yes, it is very large.

What is the commerce between our own people called?

Domestic commerce.

What is commerce between our people and those of other nations called?

Foreign commerce.

Which is the more important?

Our domestic commerce is many times greater than our foreign commerce.

What do we sell to other countries?

Our surplus of wheat, corn, oats, cotton, beef, pork, petroleum, etc.

What do we buy from other countries?

Things which we do not produce, such as tea, coffee, spices, rubber, etc., and also things of which we do not produce enough to supply our wants, such as sugar, wool, hides, different kinds of cloth, etc.

What is selling and sending to other countries called?

Exporting.

What is buying and receiving from other countries called?

Importing.

What are the six great commercial seaports of our country?

New York, Boston, Philadelphia, Baltimore, New Orleans, and San Francisco.

ORAL EXERCISE.

Procure. Domestic. Foreign. Produces.

(SEE ORAL EXERCISE, LESSON 22.)

All trading, even such as that at the village store, is commerce; but in a general way trading which involves transportation is meant by the word.

To illustrate our domestic commerce, suggest a train of cars running across the country. Ask of what goods the freight probably consists, both going and coming. Discuss the commerce between the northern and southern parts, mentioning coastwise vessels. This will develop a knowledge of the productions of different parts.

Commerce is common even to savage tribes. Tell how the Indian barter furs; the African, elephant tusks, ostrich feathers, etc.; the South American, rubber; the Central American, bananas; the South Sea Islander, coconuts and other fruits.

Show that as a people becomes civilized its commerce increases, and mention articles of commerce received from the Chinese, Japanese, French, English, etc.

Show the difference between domestic and foreign commerce. For instance: A merchant sends two vessels away the same day from the same port loaded with similar goods. One goes to New Orleans; this is domestic commerce, because the goods are sold to people of our own country. The other goes to Havana; this is foreign commerce, because the goods are sold to a foreign people.

Nearly all the shipments of goods in the United States, either by water or by rail, are to people in other parts of our own country, so that our domestic commerce is vastly more important than our foreign.

In earlier days the United States imported most of its manufactured goods, but now the value of the home production is nearly thirty times greater than that of the manufactured imports.

Most of our imports are of such goods as can not be easily produced in our climate, or such as can be bought so cheaply in other countries that it will not pay to produce them here.

We as a nation now export more than we import to the amount of about fifty million dollars a year.

Speak of custom-houses, where accounts are kept by the Government of all goods exported and imported, and duties collected on imported goods. Tell how the money received from these duties is expended in improving harbors, building and keeping lighthouses, marking dangerous rocks where vessels might be wrecked, etc., besides paying other expenses of the Government.

Great Britain, Germany, and France have each a greater foreign commerce than the United States, but our domestic commerce surpasses that of any other nation.

Interest pupils in the six great ports by telling them something of the commerce and early history of each.



LESSON 39.

The New England States.

Where are the New England States?

They are upon the Atlantic Slope, in the northeast corner of our country.

Name them as they lie on the map and give the capital of each.

Is this group of States large in area?

We have several States, each larger than the whole of New England.

Are there many people in this section?

It is very thickly peopled.

What is the nature of the coast?

It is mostly rocky and has many fine harbors.

*On what bay is Boston? Providence?
Where is Cape Cod Bay?*

Where is Long Island?

What strait or sound between Long Island and the coast?

What is the surface of New England?

It is generally rough and rocky.

What are the ridges of the Appalachian Mountains called which pass through it?

One in Vermont is called the Green Mountains and one in New Hampshire is called the White Mountains.

Are there many rivers? Which way do they flow? Are there many lakes?

What long river drains the valley between the White and the Green Mountains?

What States does it separate, and which States does it cross?

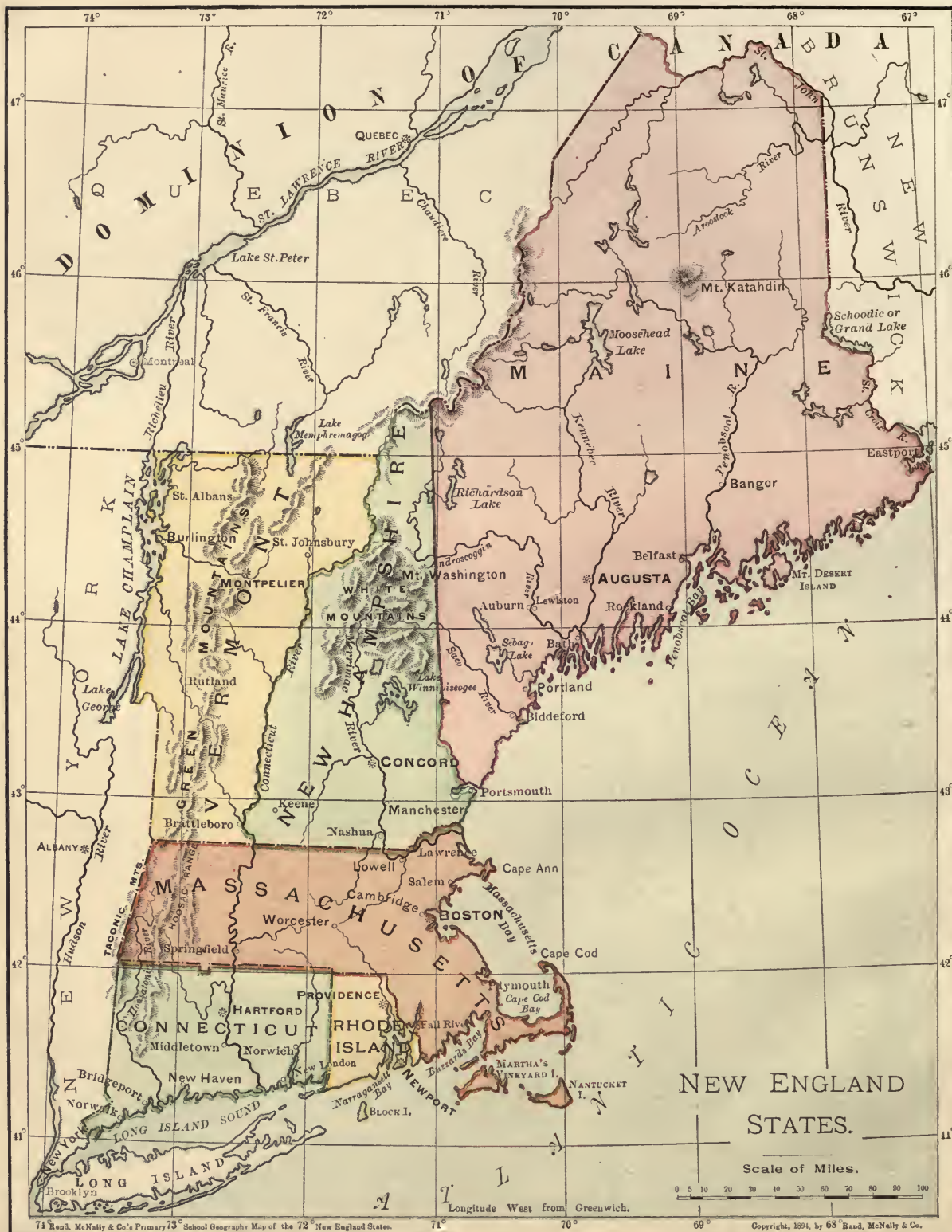
The country is rocky and the soil sandy and gravelly; would you expect the rivers and lakes to be muddy or clear?

If the soil is sandy, gravelly, and rocky, is it favorable for farming?

To what system do the rivers belong?

There are a few rivers in Vermont flowing north; to what system do these rivers and Lake Champlain belong?

To the St. Lawrence system.



ORAL EXERCISE.

Resemble. Explorers. Section. Area.

Speak of the Puritans; tell who they were, where they came from, and when and why they left England. Speak of early settlers fighting the Indians; mention the settlement of Boston, Salem, Providence, etc.

Four States of New England were of the original thirteen: Massachusetts, New Hampshire, Connecticut, and Rhode Island. Maine then belonged to Massachusetts, and Vermont was claimed by New York. The first battles of the Revolution took place in Massachusetts. For details of above, see school history.

Speak of Long Island Sound as really a strait, and say that wide and shallow straits are sometimes called sounds. Long Island is a part of New York.

The White Mountains, the Green Mountains, and the sea-coast of New England are favorite places for people to visit during the hot part of the summer. Speak of mountain and coast scenery.

Farming, except in the way of gardening, is not so profitable as manufacturing; hence people generally follow other than agricultural industries.

LESSON 40.

New England States.

The rivers descend rapidly, with many falls, to the ocean; would you expect them to furnish much power for moving machinery?

New England lies far north; what should the climate be?

It should be cold. The winters are long and cold, and the summers short and hot.

With its poor soil and short growing season, do you think it is a good farming country?

If there are many people, and the conditions are not good for farming, and there is plenty of water-power, do you think manufacturing would be a good business?

Where did manufacturing begin in our country?

In New England.

Does it still continue there?

New England is the most important manufacturing section of the country.

Name some raw materials used in New England factories.

Cotton, wool, silk, flax.

What is made from them?

Cloth, knit goods, and thread.

Name other raw materials used there.

Iron, copper, and other metals.

What are made from them?

About all kinds of metal wares except the heaviest steel goods.

Name some other raw materials largely used in New England.

Leather, rubber, and petroleum.

How are the fisheries carried on?

By crews who sail in small vessels and fish along the coast as far north as Labrador.

What do they catch?

Mostly cod, mackerel, and halibut.

Where do Massachusetts vessels go to catch whales?

To the waters near Bering Strait.

Is mining an industry in New England?

It is of very little importance; but much quarrying is done of granite, marble, and slate.

What is New England's chief city?

Boston, one of the oldest American sea-ports. Its foreign commerce is next to that of New York.

Name some important manufacturing cities of New England.

Providence, Lowell, Manchester, New Haven, Lewiston, and Rutland.

In what States are these cities?

ORAL EXERCISE.

Crews. Quarrying.

Tell a story of a trip from the source of a river in the mountains to the coast, as a means to illustrate New England. In it speak of the character of the surface—hilly country; forests of pine and hemlock; country too rough for farming; side-hill pastures, with sheep and cattle grazing; lumbermen peeling bark from hemlock trees to be used for tanning hides to make leather; saw-mills making boards, shingles, etc.; quarrymen getting out granite, marble, and slate.

Mention frequent waterfalls, where the water is made to fall upon wheels to move machinery. Describe the different factories—one making stockings and other knit goods; another woodenware, such as clothes-pins, bowls, pails, tubs, etc.; another twine, cords, rope, etc. Tell how, as the stream nears the coast, it grows larger, and at its falls larger buildings appear, and that these are filled with machinery, where hundreds of people are employed, each factory making several miles of cloth daily. Trace the river to its mouth and show that there is a harbor. Describe wharves with vessels, some unloading codfish, mackerel, etc., others preparing to sail.

Mention the light-house at the entrance of the harbor and explain that its light is useful at night for captains to guide their vessels by. Say that in foggy weather a whistle blows or a bell rings there, that sailors may be guided by the sound.

Speak of the buoys sticking up out of the waters—round pieces of timber like a mast, some painted red and others black. Explain that these are guide-marks to show vessels where the channel is safe. Say that the Government places these light-houses and buoys along the coast.

Take pains to give full and clear information concerning manufactures now, because it will apply to other sections of the country.

Have pupils name as many kinds of cloth as they can, and tell of what each is made. Tell them where the materials come from.

Have an exercise in describing steel and iron goods, from needles to locomotives; brass goods, as pins, etc.; jewelry and silverware, made from the precious metals.

New England produces an almost endless variety of articles from wood, ranging from shoe-pegs and matches to ships. A great part of the boots and shoes worn by our people is made there. The same may be said of rubber goods.

More than half the salt-fish prepared in the United States is packed in Massachusetts.

Sketch a whaling voyage, from New Bedford to the Arctic Ocean, and the capture of a whale.

Show how the railroads bring goods from distant parts of our country to Boston for export by steamer to Europe and other countries.

LESSON 41.

The Middle Atlantic States.

What are the Atlantic States?

Those which lie along the Atlantic Slope.

Why is this group called the Middle Atlantic States?

Because it lies midway along the Atlantic Coast.

What group lies south?

Name the States of this group as they lie on the map, and give the capital of each.

Where is the District of Columbia?

Which is the northern State of this group?

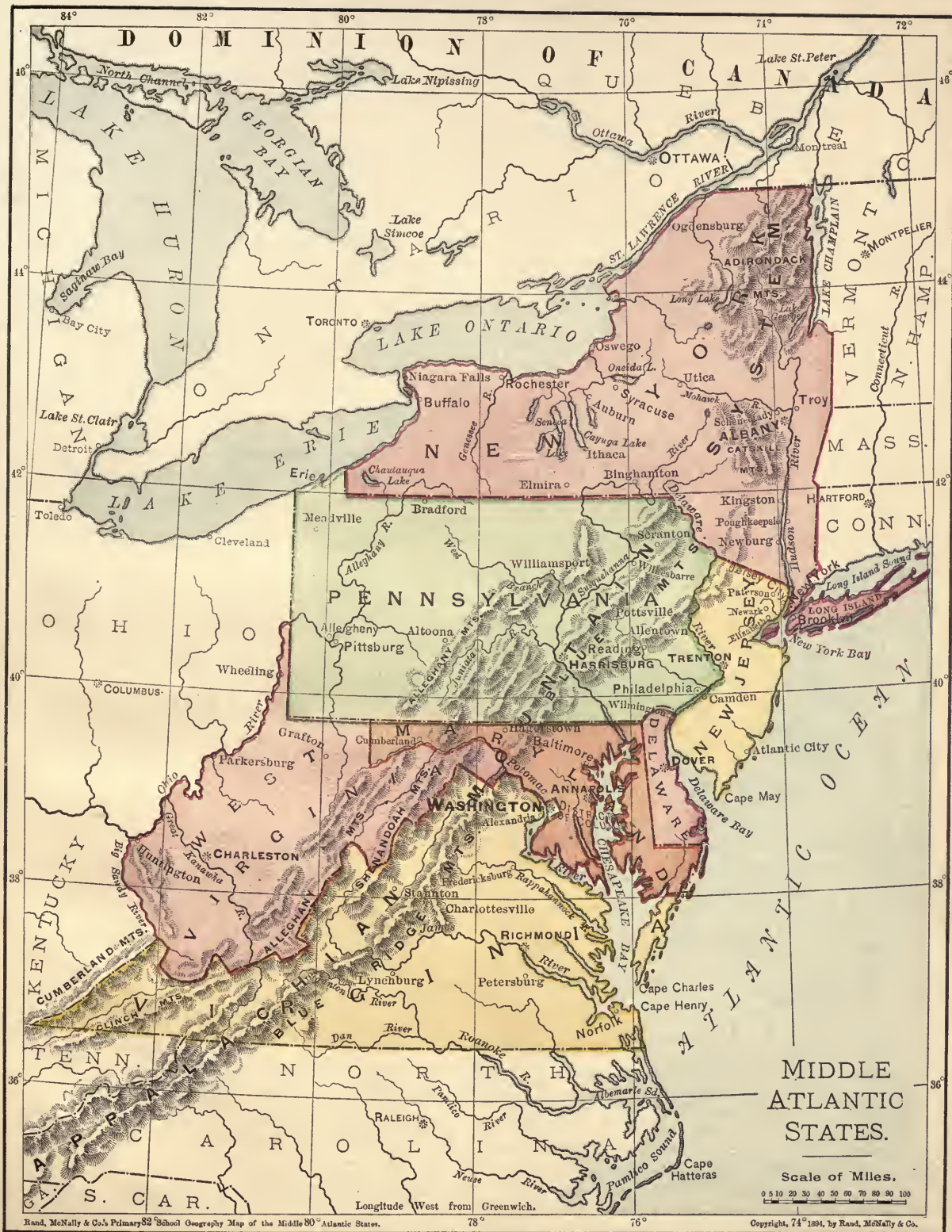
What group lies east of New York?

What lake lies between New York and New England? Which State of New England?

What two lakes and river on the north?

To what system do they belong?

To the St. Lawrence system.



What island south of Connecticut belongs to New York?

What three bays are on the coast of this section?

Which is the largest State?

What mountain system crosses this section?

The Appalachian.

What are those parts of the system lying in New York called?

What names are given to the system south of New York?

Describe the surface along the coast.

It is a low and sandy plain.

To what system do the rivers of most of New York State belong?

To the St. Lawrence system.

Which way do they flow?

What great river in New York belongs to the Atlantic system?

Which way does it flow?

Does the drainage of this section east of the mountains belong to the same system as that of New England?

What system is that?

The Atlantic system.

ORAL EXERCISE.

Group.

Say that the New England States were settled mainly by English people, but the Middle States were colonized by people from various parts of Europe. New York City, for instance, was settled by the Dutch, who bought the ground from the Indians for about twenty-five dollars. The first colonists of Pennsylvania were English Friends or Quakers, while those of Delaware were Swedes, and of

Maryland, English Catholics. All of these States were of the original thirteen, West Virginia being then a part of Virginia. Give sketches of these different settlements. (See school history.)

The area of these States is nearly three times that of New England. The low plain along the Atlantic grows wider as it extends southward. This plain is narrow in New York, but is nearly one hundred and fifty miles wide in Virginia, where tobacco is a leading and profitable product. North of there, market gardening is an important industry. New Jersey produces extensive crops of peaches and cranberries. Peaches are also shipped from Delaware and Maryland in immense quantities.

New York has many beautiful lakes; show that they mostly belong to the St. Lawrence system. The level of Lake Erie is much higher than that of Lake Ontario, a few miles distant. Between these lakes lie Niagara Falls, the greatest cataract in the world. Describe the Falls. Here the whole drainage of the western part of the St. Lawrence system flows over a rocky precipice. Show that all the rivers which flow into four of the Great Lakes, and all the underground springs feeding those lakes, furnish water which flows over these falls.

LESSON 42.

Middle Atlantic States.

To what system does the drainage of Pennsylvania and West Virginia west of the mountains belong?

To the Mississippi system.

Through what river does most of it reach the Mississippi?

How does the climate compare with that of New England?

The group lies farther south, and the climate is warmer.

Is the soil better than that of New England?

Much of the soil is better. Farming is an important industry.

What conditions favor manufacturing?

Plenty of water power, coal, and an abundance of iron ore.

Is the manufacturing similar to that of New England?

There is less manufacturing in cloth and fine metal-work, but more in heavy iron, steel, and glass.

What are the mineral productions?

Coal, iron, salt, and petroleum are the chief minerals.

Is this section as thickly peopled as New England?

It is not.

What State in this section is the leading State of the nation?

New York. In riches, population, manufactures, and commerce it surpasses all others. It is called the "Empire State."

Is Pennsylvania a leading State?

It is next to New York in importance.

Name the great commercial city which belongs to each of the bays of this section.

Philadelphia, on the Delaware River, above Delaware Bay; Baltimore, on Chesapeake Bay; New York, upon New York Bay.

How large is New York City?

The largest city in America, and the third largest in the world.

How large is Philadelphia?

It is the third city in size in America.

What is Baltimore?

It is a commercial city of about the population of Boston, and less than half that of Philadelphia.

What commercial city on Lake Erie?

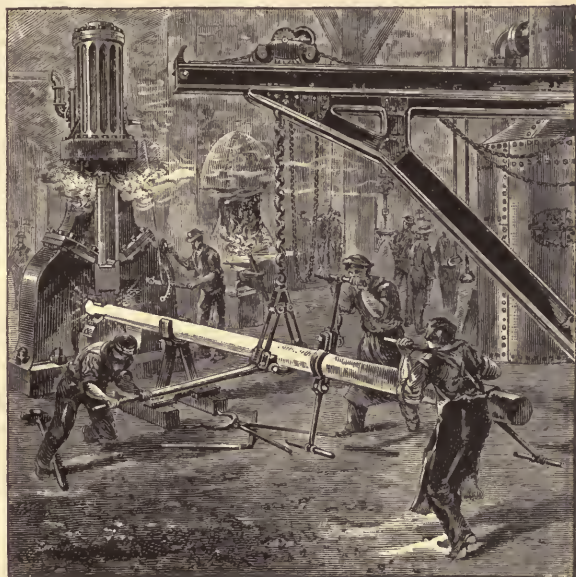
Buffalo.

ORAL EXERCISE.

Abundance. Population. Surpasses.

The manufacture of heavy steel products, like steel rails, bridge-beams, heavy guns and armor for naval vessels, is peculiar to the Middle Atlantic States.

Enormous quantities of carpets and wall-paper are made in Philadelphia. In Trenton, New Jersey, are very extensive earthen and china ware factories, and at Paterson are the largest silk factories in the United States. Iron is found in all these States except Delaware. Most of the petroleum consumed in this country is produced in this section. The wells are on the western slope of the mountains. The great anthracite coal region of the



FORGING A HEAVY STEEL SHAFT.

world is in Pennsylvania. This State and West Virginia contain vast deposits of bituminous coal. Natural gas is found in the western part, and is used for fuel, both for heating purposes and in manufacturing. Zinc is found in New Jersey and Pennsylvania.

Oysters are procured in great numbers in Chesapeake Bay, and more or less along the coast northward as far as Cape Cod in New England.

State that the climate of this section, except in New York, is milder than that of New England, because of its more southern latitude and the influence of the Gulf Stream, which flows near the coast.

State that although the farming industry is very extensive in these States, its products are insufficient to feed the great manufacturing and mining population, and that breadstuffs are received from the Western States in great quantities. Indeed, the manufacturing portion

of the United States is the principal market for the immense agricultural products of the whole country. The American farmers sell many times as much for home consumption as is exported, and the same is true of the manufacturers.

Pittsburg in Pennsylvania is the leading city in the manufacture of glass, and is second only to Chicago in the manufacture of steel rails.

LESSON 43.

The Southern States.—Eastern Division.

How many States are in this section?

Name them as they lie on the map, and give the capital of each.

What river bounds it on the west?

What gulf is on the south?

What is the nature of the coast?

It is low and sandy, with many islands. Some are barren and others fertile.

What is Pamlico Sound?

A wide, shallow strait off North Carolina, between the coast and some of these islands.

Which State is a peninsula?

In which State does the Appalachian Mountain system end?

In Alabama.

To what system do the rivers east of the mountains belong?

To the Atlantic system.

Which way do they flow?

What slope do they drain?

How extensive is the low Atlantic plain?

It covers the whole of Florida and about half of each of the other coast States.

Which States are partly covered by the mountain system?

What is the climate?

As this group lies in the warm part of the temperate zone, and Florida is quite near the torrid zone, the climate is warm.

What is the nature of the soil?

Generally fertile and well adapted to farming.

Is this section thickly peopled?

It is not; there are no large cities and few small ones. The people are scattered more than in the States farther north.

What are the industries of the people in these States?

Mainly farming, though in the mountainous part some mining and iron manufacturing is done and some coarse cotton goods are made.

Are the forests productive?

Yes; they are mainly pine upon the low land, and produce tar, pitch, rosin, and turpentine. Lumber is made from the pine, cypress, and cedar.

What are the mineral productions?

Chiefly coal and iron, though some gold is found. Tennessee has a great variety of marbles.

Are all the farm products like those of the States farther north?

No. Most of them are such as require a warmer climate. They are rice, sugar, cotton, oranges, peanuts, etc.

What products are raised both in the South and in the North.

Tobacco, corn, and sweet potatoes.



ORAL EXERCISE.

Shallow. Barren. Fertile. Adapted.

PEANUT PLANT.

North Carolina was colonized by English people. The first settlers of South Carolina were French, of Georgia, English, while those of Florida were Spaniards. St. Augustine, Florida, is the oldest town in America. Sketch the history of Florida. North Carolina, South Carolina, and Georgia were of the original thirteen States. Many people go from the Northern States to Florida and other parts of the South to spend the winter, which in the Southern States is so mild and pleasant that the growing season does not cease. Frost is very rarely seen throughout this region.

Explain to pupils that as we go south in our country we leave the manufacturing region and enter a section where the people are more engaged in the production of raw materials. In the hilly parts of these States are water-power, coal, and iron, yet manufacturing has not advanced so rapidly as in States farther north. There is considerable manufacture of iron and cloth, but not nearly so much as in Northern States, nor so much as might be done. From the Mississippi to Virginia the low plains abound in forests, mainly of pine, with many swamps, which are filled with cypress. On the low coast lands rice is grown. This is a grain something like wheat, except that it requires a very wet soil.

Cotton is the leading farm product throughout most of this section. It grows upon a bush, the seeds being wrapped in a white fibrous substance and enclosed in a pod. When ripe, the pods open and this soft fiber, or cotton, is picked and packed into bales. Upon the islands along the coast of South Carolina and Georgia grows the famous sea-island cotton, the finest in the world; the fiber is long and silky and is used for making thread.

Sugar-cane is also cultivated extensively. The cane, which resembles corn-stalks, is run through heavy rollers to squeeze out the sap, which is boiled down until the water



COTTON PLANT.

has mostly passed into the air and sugar is formed; its drainings are molasses.

In Florida the principal industry is cultivating such fruits as will not grow in a northern climate. Oranges, lemons, pine-apples, coconuts, figs, etc., are produced in great quantities.

Sponges are the skeletons of little sea animals. They are found of fine quality and in great quantity off the coast of Florida, and many people make a business of gathering them.

The southern part of Florida and some of the neighboring islands were built up by little coral animals. Explain this. These minute creatures must have existed in countless millions and worked for many thousands of years to build up such immense bodies of coral. The same process of building is going on now.



SUGAR-CANE.

LESSON 44.

The Southern States.—Western Division.

What river divides this group from the eastern division of the Southern States?

What gulf is upon the south?

What river separates this part of the United States from Mexico?

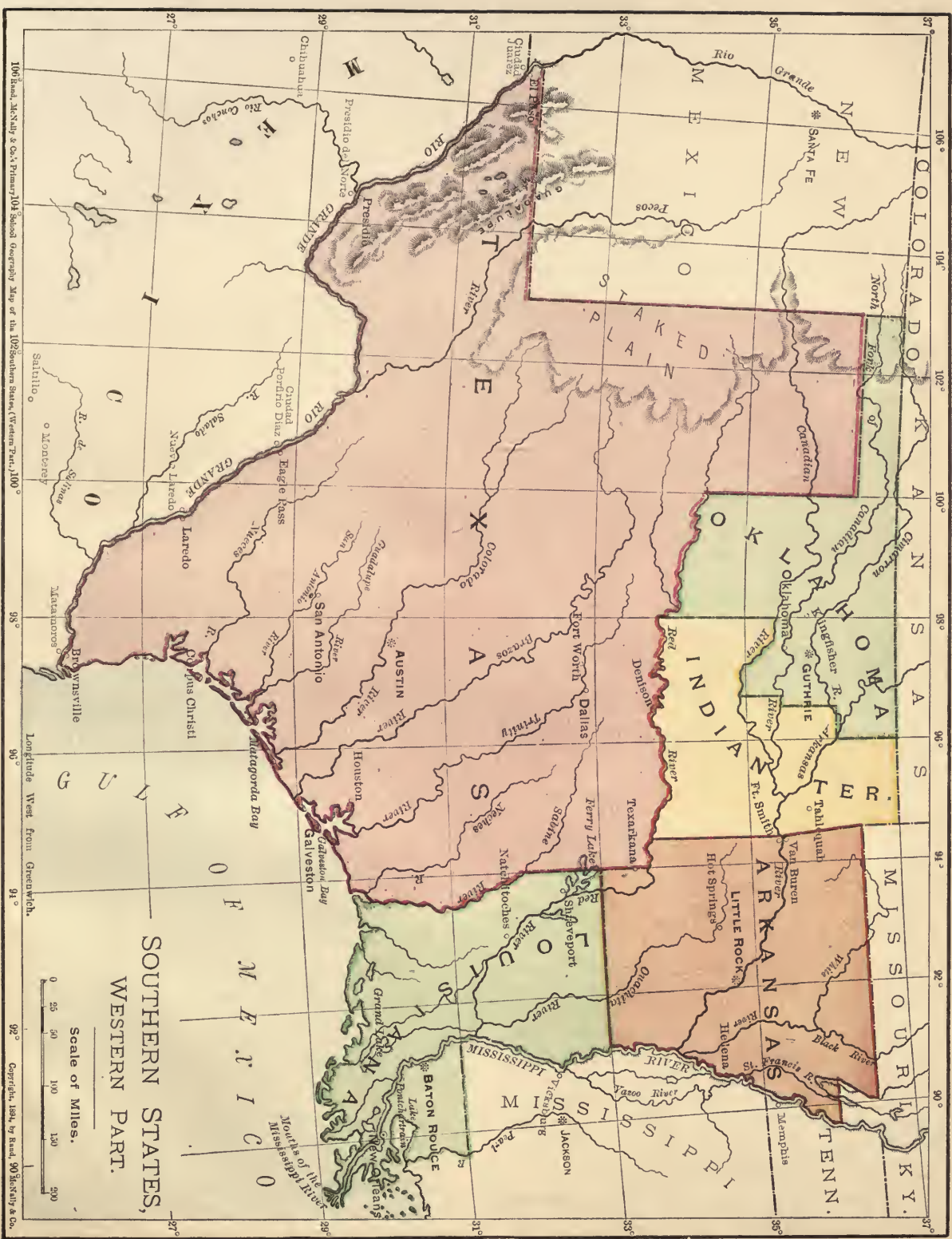
What group lies north of the Southern States?

The Central States.

Name the States as they lie on the map and give the capital of each.

What two territories are in this section?

Are there any mountains in this section?



100 Feet, McNally & Co.'s Primary Map of the 102 Southern States, (Western Part), 100°

Longitude West from Greenwich.

SOUTHERN STATES,
WESTERN PART.

Scale of Miles.



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On what slope does this group of States lie?

On the eastern slope of the Rocky Mountains.

To what system do the rivers belong?

To the Mississippi system. They flow into the Mississippi or into the Gulf of Mexico.

What two large rivers join the Mississippi from the west?

In what direction do the rivers flow?

What is the extent of the low-coast plain?

It covers all of Louisiana, narrowing to one-third of this width at the southern end of the Texas coast.

What is the nature of the coast?

Like the whole coast from Mexico to Virginia, it is low and sandy.

What is the climate?

It is warm, and along the coast very warm. In the western part the climate is very dry.

What is the great natural feature of this section?

The Mississippi River.

How long is it?

Over three thousand miles, and for much of its length it is about half a mile wide.

What city is situated near the mouth of this river?

New Orleans, one of the six great seaports of the United States.

What makes this city important?

It is the port through which the commerce of the Mississippi River passes.

Is this section densely peopled?

No; the population is small and scattered. There are few cities.

What are the leading industries?

Farming and cattle raising.

What are the leading products?

Cotton, sugar, and rice. Corn is also raised, and a little wheat in the northern part.

ORAL EXERCISE.

Feature. Densely.

Show that a large part of the low land of Mississippi and Louisiana has been formed by the deposit of mud which loads the waters of the Mississippi River.

The sediment thus carried down by this river has made hundreds of miles of land. It is estimated that each year enough of this sediment is brought down to cover a township of thirty-six square miles with solid soil six feet deep.

Speak of the thousands of great trees growing upon the banks of the river for hundreds of miles, which are undermined by the current until they fall into it, and are carried floating down the river.

Much of the land along the river is so low that it has been necessary to build dikes, called "levees," along the banks to prevent the water from overflowing them during the spring floods and covering the country. The floods are caused by the melting snows or heavy rains near the sources of the river.

These levees sometimes break, and hundreds of square miles of plantations are covered with water on either side, until the river seems to be a sea. The drainage of over a million square miles flows from the land into the sea through this river.

Hundreds of steamboats ply upon the Mississippi River, many of them going as far north as St. Paul, more than two thousand miles from the Gulf of Mexico.

There is a canal which enables small boats to run from Chicago to this river, connecting the St. Lawrence and the Mississippi systems.

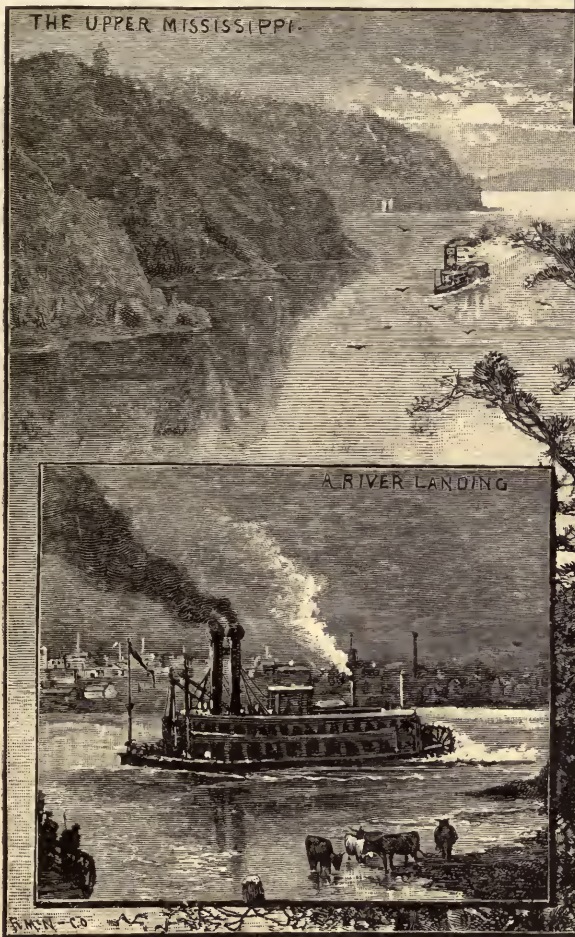
Explain that it is the commerce which follows this river that has made New Orleans so important. The trade of the Mississippi Valley, and much of that of the Pacific Highland, reaches the Atlantic through Boston, New York, Philadelphia, and Baltimore by railroads and canals, and through New Orleans by the Mississippi River and railroads which follow it.

Many of the people in Louisiana are descended from the French. In some parts of New Orleans the French language is in use to this day. In Western Texas many of the people are Mexicans, descended from the Spaniards who settled in Mexico. Texas was formerly a part of Mexico, where the Spanish language is spoken.

So hot is the climate in the Gulf States that white people can not well endure labor in the fields; much of this work is therefore done by Negroes, a race belonging to a hot climate. Very little mining or manufacturing is done here.

Texas is the largest State in the Union. Most of the

of a machine called a "spinner." Then roll up and mix the straight fibers, explaining that you are now undoing the work of a machine called the "carder," and finally show the class, as a result, the little wad of



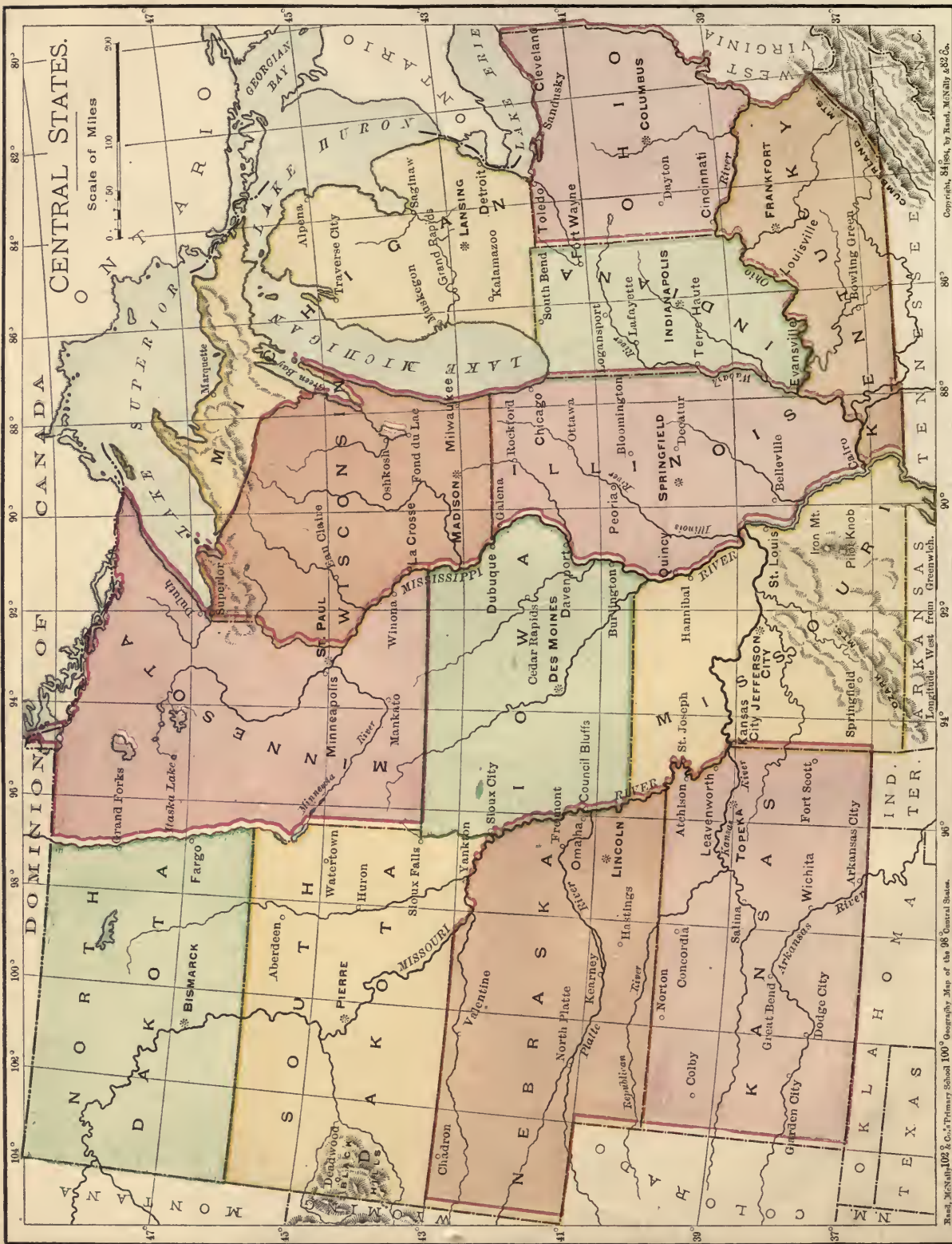
cotton, which looks now much as it does when it comes from the plant.

Sketch the course of cotton from the field to the market, as follows :

- 1st. It is picked in the field, seeds and fiber together.
- 2d. Then passed through a machine called the "gin," which separates the seeds and fiber.
- 3d. After this the cotton is packed by presses or machines into bales.
- 4th. These are shipped by vessel or railroad to some city or town in New England, or perhaps to Europe.
- 5th. The cotton is taken from the bale at the factory and passed through the carder, which combs the fibers until they lie straight with each other.
- 6th. It is passed through the spinner, which twists the fibers into threads.
- 7th. These threads are woven in a loom into cloth.
- 8th. This white cloth is taken to the dye-house, where it is dyed, or colored, to make it pretty.
- 9th. It is sold to a merchant, who sells it to a smaller merchant, who sells it to some lady, who makes of it a dress for some little girl to wear at school.

powerful nations of the world are smaller in area than this State. Sketch its history. (See school history.)

The leading crop of Texas is cotton. Take a piece of cotton cloth and show pupils how the threads are crossed and interlocked. Take it apart into threads, explaining that this is undoing the work of the loom. Then untwist the threads, explaining that you are undoing the work



CENTRAL STATES.

Scale of Miles
0 50 100 250



WATER ROUTE—GREAT LAKES TO THE OCEAN.

LESSON 45.

The Central States.

Why is this group of States called the Central States?

Because they are in the Great Central Plain, and are nearly in the center of the grand division of North America. (See map of North America.)

What section lies east of this group?

The Middle Atlantic States.

What section is south?

The Southern States.

What section is west?

The Pacific States.

What lies upon the north?

The Great Lakes and Canada.

Are there any mountains in this section?

None, except a low range in Missouri called the Ozark, and the hills of the Rocky Mountain Slope along the west.

What group of these hills lies in South Dakota?

The Black Hills.

What is the drainage of this section?

It all goes to the Atlantic Ocean through the Mississippi River, except that of a narrow strip around the Great Lakes which belongs to the St. Lawrence system, and that which flows through the Red River of the North to Hudson Bay.

Is the soil good?

It is good for farming in every State.

What is the climate?

In the north the season is too short for corn, but is long enough for wheat. In the

middle and southern parts of this section the climate is excellent, though variable.

Where is the rainfall too scanty for farming?

In the western part.

What is done there?

Grazing is the principal industry.

What are the chief natural features?

The Great Lakes and Mississippi River.

ORAL EXERCISE.

Center. Furnish.

Explain by the map on preceding page the route of vessels from Chicago and other lake cities to the ocean. Show that this water-way may yet be more important to our country than the Mediterranean Sea is to Europe.

More tons of freight pass yearly through the Welland Canal than through the Suez Canal in Africa.

Chicago, next to New York the largest city in America, has more railroad communication than any other city in the world, and more vessels clear from its harbor than from any other two cities in the United States.

In Nebraska the making of sugar from beets is a



A BEET SUGAR FACTORY, NEBRASKA.

Name those of the Great Lakes that lie upon this map.

How are those lakes useful?

They improve the climate and furnish a vessel route for the commerce of this section to reach the ocean.

Where does the Missouri join the Mississippi?

Which is the larger river at this point?

The Missouri.

Where does the water of the Missouri come from?

Mainly from the slope of the Rocky Mountains, through many streams.

What is the principal river joining the Mississippi from the east?

From what mountain slope does most of its water come?

growing industry. More than half of all the sugar produced is made from beets. The United States consumes over four thousand tons of sugar each day. Most of what we use is made from the sugar-cane, and seven-eighths of it is imported.

LESSON 46.

The Central States.—Continued.

Name the six States east of the Mississippi as they lie upon the map, and the capital of each.

Name the seven on the west of the Mississippi in the same way.

How is the population distributed?

The eastern part, the first to be settled, is more thickly populated than the others.

What is the leading business?

Farming.

What are the principal products?

Corn, wheat, oats, tobacco, beef, pork, and wool.

What are the mineral productions?

All the ordinary minerals are found in large quantities.

Is there much manufacturing?

Yes, east of the Mississippi River in the older States.

What kinds of goods are made?

Much the same as those of the Middle Atlantic States.

What especial advantage have Ohio and Indiana?

Their supply of natural gas.

What city manufactures the greatest amount of iron and steel?

Chicago.

Describe Minneapolis and St. Paul.

They are two large cities adjoining each other on the Mississippi River. They are prominent railroad centers.

What is manufactured principally in Minneapolis?

Flour; its mills have a capacity of forty thousand barrels per day.

Where is St. Louis?

On the Mississippi River, just below the Missouri.

In what State is St. Louis?

Missouri.

For what is it important?

For its commerce and manufactures.

ORAL EXERCISE.

Prominent. Ordinary. Adjoining. Capacity.

The Central States were peopled by immigrants from the Atlantic Slope and from Europe.

Show that settlement has been gradual from east to west. Explain that a strip parallel to the Alleghanies was first settled, and then another west of that, and so on, and that it is within the memory of men living when the country on the Ohio River was called the Far West, and was the home of wild beasts and savage Indians.



A TALL CHICAGO BUILDING.

Fifty years ago Chicago was a little town of some six thousand inhabitants; now it is a great city, with more than one and a half millions.

The eastern part of this section has developed more than the western part, because it was settled sooner, but, as a whole, it has grown wonderfully. Nebraska and Kansas, upon the western edge of the Central Plain, are rapidly increasing in population and importance, and the whole Mississippi Valley may now be said to be peopled.



A WHALEBACK FREIGHT STEAMER ON LAKE MICHIGAN.

This section feeds the United States and much of Europe. From Lake Erie south and east to the coast all the States consume more grain and meats than they produce. As regards grain, the consumption also exceeds the production in a large part of the Pacific States. They depend upon the Central States.

The food products of this section, moving toward the Eastern States and to Europe, reach Chicago, Duluth, and other lake ports, and are carried thence by water, or over the belt of railroads running east around the south end of Lake Michigan.

There was a time when New York raised a surplus of food products; then, later, Ohio did the same; but both now consume more than they produce. Illinois has far less to spare than formerly, and will soon be classed with the States east of it.

If population continues to increase, the time will soon come when this country will need for its own people all the food products it can raise.

Near Lake Superior are immense iron and copper deposits. Iron also abounds in Missouri, Kentucky, and Ohio. Lead and zinc are found in Iowa, Wisconsin, Illinois, Missouri, and Kansas. Gold and silver are found in South Dakota; salt in Kansas and Michigan; petroleum in Ohio, and coal in nearly every State.

Speak of the natural gas of Ohio and Indiana, and how it is obtained and used.

LESSON 47.

The Pacific States.

Where is this section?

It is the western part of the country.

How large is it?

It covers more than one-third of the area of the United States.

*What lies north of it? South of it?
East of it? West of it?*

What is the nature of its coast?

It is bold and rocky. Its harbors are few, but good.

Where is Puget Sound?

Where is Vancouver Island?

To what country does it belong?

Describe the surface of this section.

It is a mountainous region, with some plains. The greater part is a plateau called the Pacific Highland.

What mountain system spreads over it?

The Rocky Mountain system.

*What is the highest peak of this system,
and where is it?*

It is Mount Rainier, in the State of Washington.

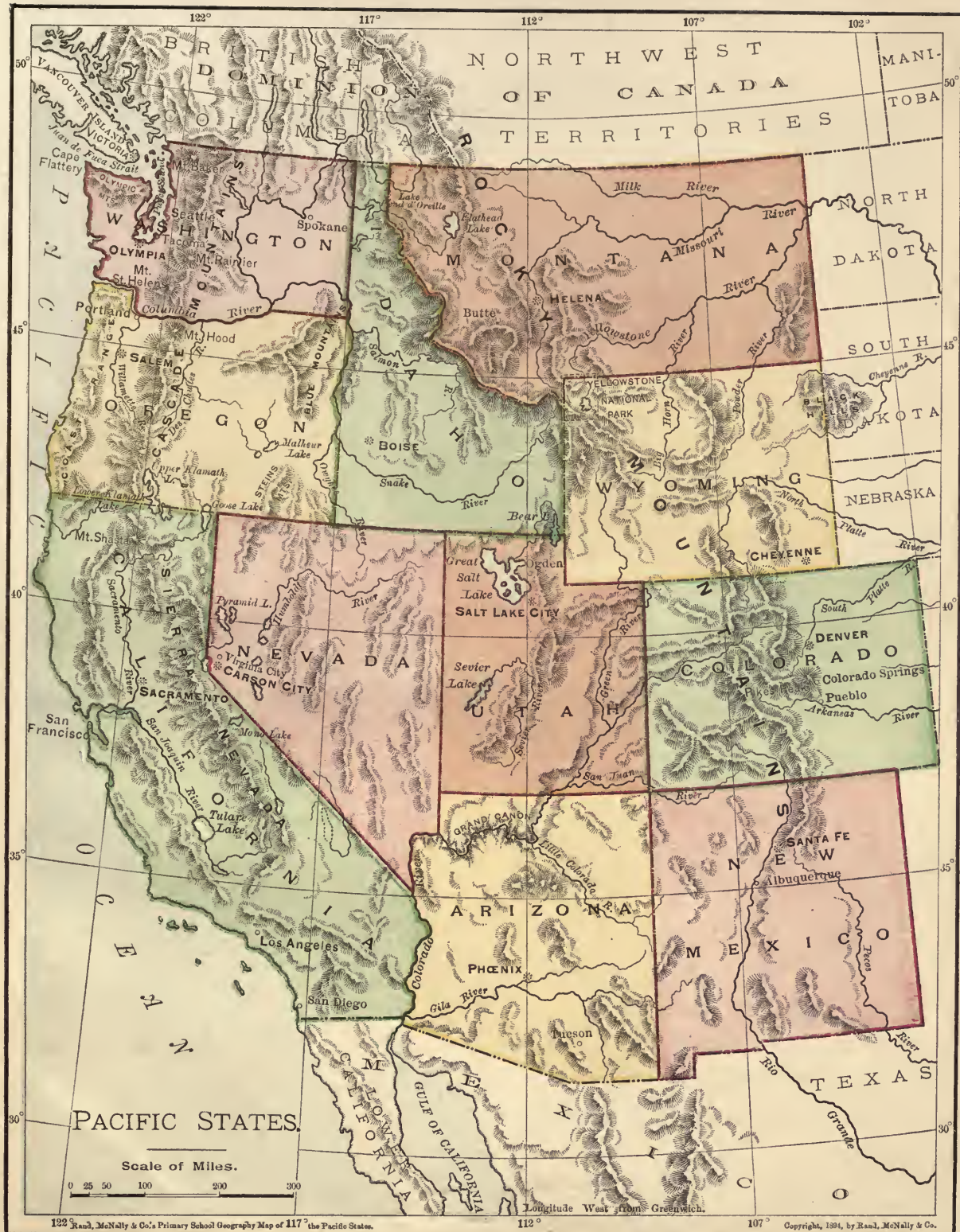
What range lies along the coast?

*What range lies about one hundred miles
east of that?*

Is there a valley between these ranges?

What rivers drain this valley?

*By what river system is the eastern
part of this section drained?*





ROCKY MOUNTAIN SCENERY.

What system drains the western part?

What Territory is drained by the Rio Grande and its branches?

In what region are the lakes which have no outlet?

Name the States as they lie upon the map, and give the capital of each.

Name the three Territories.

What great territory is in the north-western part of North America?

Name the coast States from north to south.

Name some of the wild animals of this section.

Antelope, elk, grizzly bear, mountain-lion.

ORAL EXERCISE.

Show a map of the United States to the pupils and explain that more than half the surface of our country is mountainous, or highland, counting the Appalachian system with that of the Rocky Mountains.

The plains and valleys are rich in fertile soil, the coasts and rivers abound with fish, and the mountains are great treasure-vaults of wealth containing precious metals and other minerals. Already the United States is the richest country on the globe, while as yet we have hardly begun to develop the enormous stores of wealth that nature holds for us.

That portion of this section which lies on the eastern slope is high plateau from three thousand to six thousand feet above the sea. The mountains are much higher, there being upward of one hundred and fifty peaks averaging thirteen thousand feet in height.

Much of the scenery of this region is the grandest and most beautiful in North America.

Between the Sierra Nevada and the Rocky Mountains—the eastern main ridge—lies the great plateau known as the Pacific Highland.

Some of the valleys are very low, in some places actually below the level of the sea. In the lower part of California the Southern Pacific Railroad passes through valleys two hundred and fifty feet below the sea-level. Some of the rivers between the Coast Range and the Sierra Nevada Mountains have no course to the ocean, but their waters sink away and disappear in the ground, or flow into lakes that have no outlets. Most of the water of these lakes is absorbed by the air. Great Salt Lake is the largest of these bodies of water. A gallon of its water contains over a quart of salt. It is believed that this region was once the bed of a sea. Both salt and soda, or alkali, are abundant in the soil in some parts, so that much of the soil is arid and the water unfit to drink. Lake Mono contains so much alkali that its water is like very strong soap-suds.

The great rivers of this region are, many of them, peculiar in having apparently cut their way through mountain ridges. The banks of these streams are like mountain walls and are frequently from a quarter of a mile to a mile high on each side.

Read descriptions of scenery and natural features peculiar to this region, and give results to class orally. There will be no better opportunity in the whole course to illustrate principles of physical geography than in the treatment of the Pacific States.

NOTE TO TEACHER.—All railroads crossing this section publish for free distribution maps, pictures, pamphlets, etc., abounding in information. Write to the officials of those roads for such matter, enclosing stamps for postage, stating that you wish it for school use, and you will receive in return quantities of material which will be most valuable for illustration.

Give account of the bison; explain that, although it is generally known as the buffalo, it is really the bison. These animals once roamed in herds of tens of thousands over the Central Plains and through the Pacific Highland. Millions have been killed, and only a few hundred are left, these being protected by law.

With the settlement of a country wild animals pass away. Wolves, bears, panthers, deer, elk, and smaller game once abounded all over our country, but are now found only where it is wild and unpeopled; such parts are generally among the mountains.

LESSON 48.

The Pacific States.—Continued.

What is the climate of the Pacific States?

East of the Sierra Nevada range it is dry; west of that, in the north, it is moist, because of the excessive rainfall.

What are the wet and dry seasons along the Pacific Coast?

The wet season is from November to May, covering the season of our winter; the rest of the year is the dry season.

Is this section densely populated?

It is not; there are few cities, but it is growing in population, and has many towns which will in time become large cities.



PUMA AND DEER.

What are the industries?

Mining, grazing, and farming.

How do farmers water their land in the dry season?

By irrigation, or the causing of water to reach the land by means of ditches dug for that purpose.

Is this kind of farming successful?

Yes; all kinds of grain and fruit yield wonderful crops.

What kinds of stock are raised upon the plains?

Cattle, horses, and sheep.

What minerals are found in the mountains?

Gold, silver, quicksilver, copper, lead, tin, iron, petroleum, and coal.

Where is lumbering a very important industry?

In Oregon and Washington; here are the greatest lumber forests of North America.

Where are the fisheries?

Along the northern part of the coast and in the Columbia River.

What fish is caught in this river?

The salmon. Most of the canned salmon sold throughout the country comes from the northern part of this region.

Is manufacturing important?

Except in San Francisco, not much is done.

What is the commerce of this section?

Manufactured goods are brought from the Eastern States, and gold, silver, fish, fruit, etc., are sent in return.

What is San Francisco?

It is one of the six great seaports, and is on a bay of the same name.

What is its commerce?

Most of our imports from Asiatic countries enter through this port, while wheat, lumber, etc., are shipped from it.

ORAL EXERCISE.

The climate on the Pacific Coast is delightful. There is probably no country in the world more pleasant and healthful than Southern California. Here throughout the year tender flowers, like the geranium, fuchsia, jasmine, calla-lily, etc., flourish and bloom in the open air.



Fig.

Along this slope grow all the fruits of the temperate zone, with such as grow in the northern part of the torrid zone. It would be hard to think of a fruit that does not thrive in California. It is one of the chief wine countries of the world, and the raisins, prunes, figs, olives, etc., consumed in our country, formerly imported from Europe, are now largely produced in California.

Explain the process of irrigation. Tell how the rivers are fed by melting snows in the mountains long after the rainy season is past, and how ditches are dug, sometimes for scores of miles, to convey the water to plains where the slope is gentle and the soil rich. Here the farmer succeeds even better than in places where there is plenty of rainfall, for he can control his water supply, furnishing it to his crops just as they may need it. Nowhere else are such crops produced as upon the irrigated lands of the Pacific States.

Describe the country where the raising of live stock is followed: Wild desert plains and terraces among the hills and mountains, with a supply of grass which, although scanty, is scattered over many miles and is much richer in nutriment than the grasses of the East.

The dry climate, which causes the grass to be thin, cures it into hay where it stands, so that animals can subsist on it during the winter.

Sheep feed in large flocks here, and are generally tended by shepherds, who protect them from wolves and other wild animals. Cattle roam about and horses feed in bands, both cattle and horses being almost as wild as the wild beasts of the country.

Ownership is indicated by brands or marks burned upon the skin of the animal by a hot iron. Twice a year the herds are "rounded up," as it is called, or driven into an enclosure called a *corral*. Here the young stock is branded and turned loose; such of the grown stock as is wanted for sale is driven to the railroad stations for shipment to the cities of the East and to Europe, and the remainder goes back on the range. Men who tend these herds are called cowboys.

Describe mining. Tell how prospectors go out into the mountains to look for mineral veins. They reach a place which has the right kind of rock to indicate min-

erals, and then follow up gulches or canyons, examining loose pieces of stone that have been broken off from the rocks above them. They may search for months without finding what they seek, and may perhaps never find it; but sometimes a prospector will find a piece of rock which contains mineral—gold, silver, copper, or lead, and it may be two or three of these. He knows that where this piece came from there must be more; so he searches for the ledge from which it was broken, which may be half a mile up the mountain. Knowing that it fell from above, he goes upward from where he found it, examining the ledges on his way. If he can not find



PROSPECTOR WITH OUTFIT.

the vein where the rock is bare, he digs through the earthy covering and searches. He may never discover the vein, but if he does, it may, when followed into the mountain, lead to a great deposit of valuable ore.

Searchers for gold sometimes find it in the gravel and sand of river-beds. All gravel and sand has been broken and ground from rock, so if there was once rock containing gold along this river which has been ground up by nature's forces, of course the gold was ground up with it, and little particles of it will be found among the sand. Prospectors take pans, and filling them partially with the sand, they pour on water and shake the

sand and water until the gold, if there is any, sinks by its greater weight to the bottom. Then they pour off the sand and find the gold.

Sometimes a party may hunt for months without finding gold, and, again, they may find a river where there are great amounts of it.

Speak of the time when the Pacific Slope will be as thickly peopled as the Atlantic Slope now is, and show how nature has provided for such a population. Coal is abundant, and nowhere in the world are forests more plentifully supplied with the finest timber, while fish enough to feed nations swarm in the waters of the northern coast. Aside from San Francisco the cities are not large, but the locations of several are such as to indicate that when they are as old as our eastern cities they will be almost as large and important. The commerce of these coast cities will be with Asia, Oceania, and the western coast of South America.

LESSON 49.

Alaska.

Where is Alaska?

It is a large territory in the northwestern part of North America.

To what nation does it belong?

To the United States.

How large is it?

It is more than twice as large as Texas, and about nine times as large as New England.

Name the capital.

Where is it situated?

What country is east of Alaska?

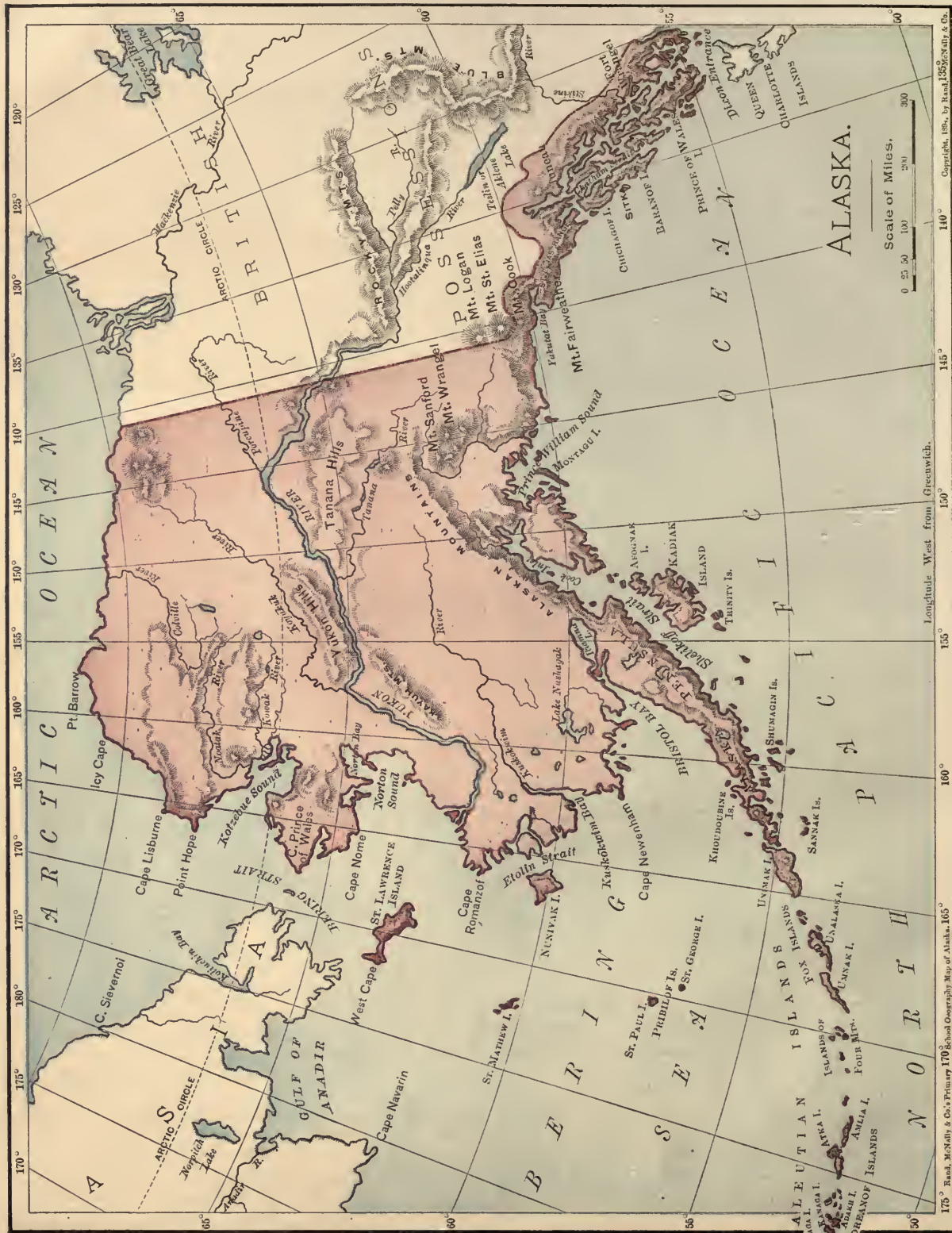
What ocean is north?

What sea, strait, and ocean on the west?

What ocean is on the south?

Is its coast even or uneven?

It is uneven, having many peninsulas and capes, hundreds of islands, and many bays.





GLACIER SCENE IN ALASKA.

Describe the surface.

It is mountainous and rough. Some of the highest peaks of the Rocky Mountains are in Alaska.

Is the interior of the country known?

No; it has been but little explored.

What is known of its drainage?

The Pacific Slope continues along the great curve west and south to the long, slim Alaska peninsula. Rivers flow to the sea on the west and north.

Is there a great central valley?

It is supposed that there is, for one of the great rivers of the world, the Yukon, flows westward from the interior to Bering Sea.

What is the climate?

In the north, where a part of Alaska lies within the frigid zone, the climate is severely cold. On the southern shore the climate is mild.

What people live there?

Native Eskimos and Indians, besides a few hundreds of Americans and Russians. In all this vast country there are but about forty thousand people.

Where are the inhabited parts?

Along the coast; it is supposed that Indians inhabit the interior.

What are the resources?

There are some valuable gold mines, and it is thought many more will be discovered. Coal, iron, lead, and quicksilver have been found. Great forests cover the southern slope, and fish are abundant along the coast and in the rivers.

What are the leading industries?

The taking of the fur seal and sea otter and the canning of salmon.

ORAL EXERCISE.

Curve. Interior. Resources.

Tell pupils that Alaska is so situated that its climate unfits it for farming. In the north it is too cold, and in the south, except in a few favored locations, it rains so much and the air is so damp that only a few plants, such as grass, lettuce, etc., will mature. At Sitka more rain is said to fall than anywhere else on the earth outside of the torrid zone. The soil is mostly poor and rocky, and there is not enough sunlight to ripen grain.

The climate along the southern coast is much milder than it is on the opposite side of the continent at the same distance from the equator.

Speak of the warm ocean current called the Japan Current. (See Oral Exercise, Lesson 58.)

Call the pupils' attention to the long mountainous peninsula which curves away toward Asia, and explain

that this is the same range which extends along the coast in the United States, and that the islands extending beyond that peninsula are but peaks of the same mountain chain rising from the bottom of the sea.

Little is known of the interior, but from the mountains along the coast, and from the Yukon River in that region, as far as can be seen, mountain peaks and ridges appear, and it is believed that the Rocky Mountain system covers the entire country. About one-fourth of the area of Alaska lies in the frigid zone.

The Yukon River is navigable for one thousand six hundred miles, and it may prove to be longer than the Mississippi. It is usually free from ice during June, July, August, and part of September.

This country was purchased from Russia by the United States in 1867 for \$7,200,000.

From the islands come the finest furs. Thousands of fur seals and many sea otters are captured every year. The skins of the latter are worth from \$250 to \$500.

The fur of the seal, when brought from Alaska, is of a light yellowish brown color and is covered with long, gray hairs. These are pulled out and the skins dyed before they are used for garments. There are many varieties of seals, but one of which is valuable for its fur, and this one is found chiefly among the Alaska islands, though some are obtained in antarctic regions.

While there are immense forests of valuable wood, it is hard to get at it because of the dense undergrowth, and of the peat and moss that deeply cover the ground and are always full of water like a saturated sponge.

As the Pacific Slope develops, the river and the sea fisheries of this country will undoubtedly become more important than those of the eastern coast of the United States have ever been.

LESSON 50.

British North America.

Describe British North America.

It comprises all the Continent of North America north of the United States except Alaska. (See map, page 40.)

To what nation does it belong?

Great Britain.

What are its principal divisions?

The Dominion of Canada and the Colony of Newfoundland.

How large is the Dominion?

Nearly as large as the United States.

What ocean is north of it? East? West?

What is the capital of the Dominion of Canada?

Ottawa.

Where is it situated?

What two cities on St. Lawrence River?

What city on the Pacific Coast?

What large bay is in Canada?

Hudson Bay, which receives the principal drainage of this region.

Where is the Gulf of St. Lawrence?

What lakes empty their waters into the ocean through the St. Lawrence River and this gulf?

What large island is east of this gulf?

What mountain system crosses the Dominion on the west?

What is the general slope of the land? Northward.

Are there many rivers and lakes?

In what two zones is Canada?

What is the climate?

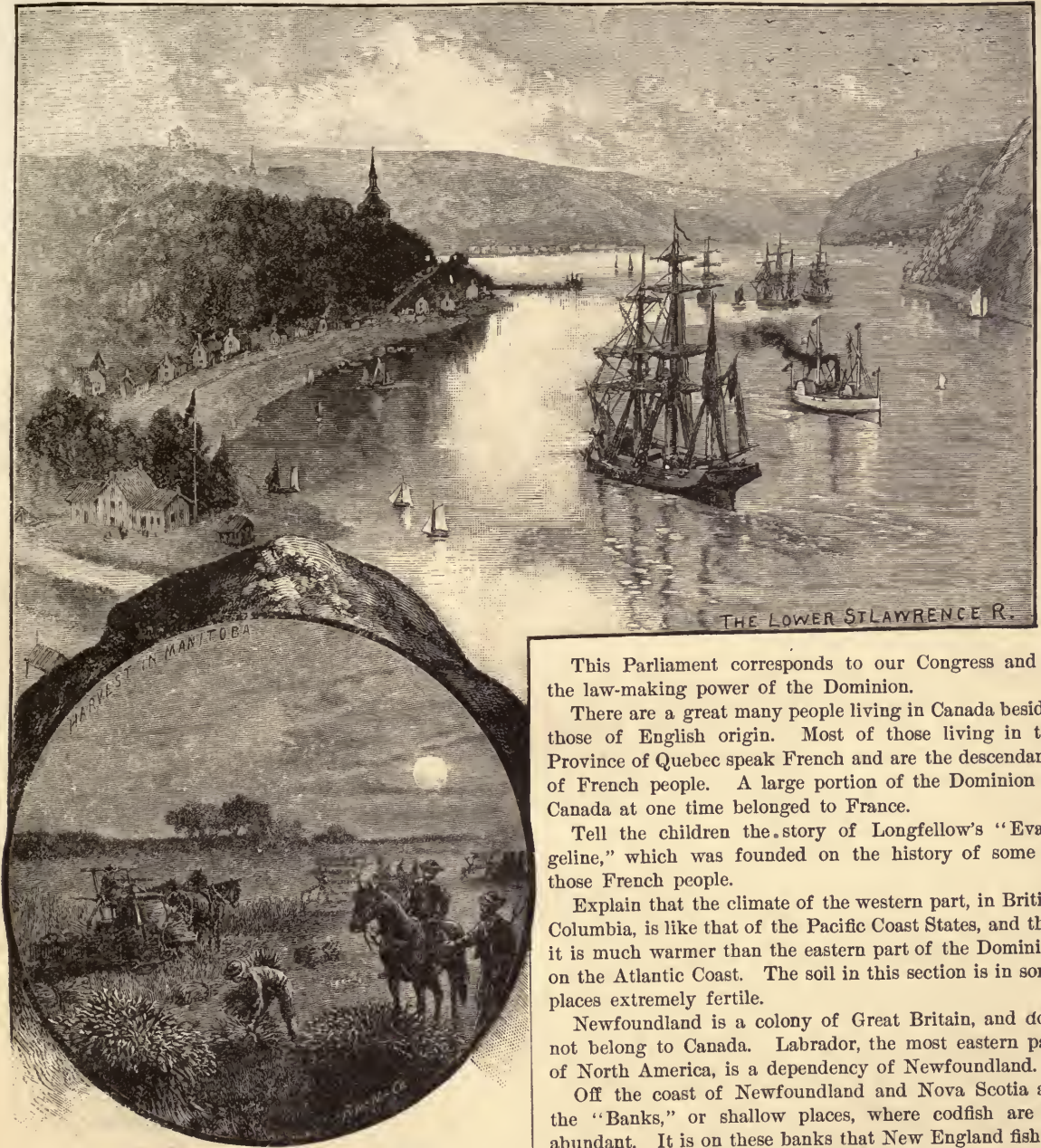
Temperate in the south and west, cold in the north and east.

Is it densely peopled?

No; much of it is too cold to be inhabited.

What are the industries?

Much like those in the northern part of the United States.



ORAL EXERCISE.

Comprises. Except.

Explain that although the Dominion of Canada is a British possession, it is practically self-governing. The Governor-General is appointed by the Crown, but the people of Canada have their own Parliament.

This Parliament corresponds to our Congress and is the law-making power of the Dominion.

There are a great many people living in Canada besides those of English origin. Most of those living in the Province of Quebec speak French and are the descendants of French people. A large portion of the Dominion of Canada at one time belonged to France.

Tell the children the story of Longfellow's "Evangeline," which was founded on the history of some of those French people.

Explain that the climate of the western part, in British Columbia, is like that of the Pacific Coast States, and that it is much warmer than the eastern part of the Dominion on the Atlantic Coast. The soil in this section is in some places extremely fertile.

Newfoundland is a colony of Great Britain, and does not belong to Canada. Labrador, the most eastern part of North America, is a dependency of Newfoundland.

Off the coast of Newfoundland and Nova Scotia are the "Banks," or shallow places, where codfish are so abundant. It is on these banks that New England fishermen catch most of their fish.

TO THE TEACHER.—While there is no lesson about Greenland and other Arctic regions, it will be well to give the class oral exercises regarding them and their principal features.

Show how snow and ice accumulate in these regions, and, breaking off in masses at the coast, form icebergs. Describe polar animals.



AN OLD HACIENDA (MEXICAN ESTATE).

LESSON 51.

Mexico, Central America, and the West Indies.

By what people was this section of North America settled?

By the Spaniards.

Do these countries now belong to Spain?

Only the islands of Cuba, Puerto Rico, and a few smaller ones.

What is Mexico?

It is a nation of many States like the United States.

What is its capital?

Of what does Central America consist?

A number of small republics.

Where is it?

Between Mexico and South America.

Where are the West Indies?

South and east of Florida.

Which is the largest island?

Cuba.

What is its capital?

What are all these countries called?

Spanish-America.

What language is spoken in them?

Spanish.

What peninsula west of Mexico? What gulf between it and the mainland?

Where is the Peninsula of Yucatan?

Where is the Gulf of Campeachy? Gulf of Honduras?

What sea is enclosed by the West India line of islands? Where are the Bahama Islands? What famous discoverer landed here four hundred years ago?

What is the surface of these Spanish-American countries?

Mountainous and high in the interior, and low upon the coast.



INDIANS.



What is the climate?

Very warm in the lowlands and cooler in the higher country. There are two seasons, the wet and the dry.

What are the productions?

Minerals are very abundant, and the vegetable productions are those of both the torrid and temperate zones.

What is the character of the people?

They are not enterprising. Great natural advantages of climate and country are neglected.

What are the chief exports?

Mahogany and other fine woods; material for dyeing cloth; tobacco, sugar, spices, fruits, textile fibers, etc.

ORAL EXERCISE.

Enterprising. Textile. Fiber.

Using Mexico to illustrate the effect of altitude on climate, tell how the country rises in a succession of terraces reaching up to a central plateau. In the City of Mexico throughout the entire year, it is said, every kind of edible fruit or vegetable grown in the United States or Europe may be purchased. This illustrates the great variety of climate to be found within reach of this city, which is due entirely to difference of altitude.

The city is six thousand feet above the sea level. Below is the vegetation of the torrid zone, while above is that of the temperate and frigid zones.

It is from Mexico that we obtain the vanilla pods from which the well-known flavoring extract is made. Cochineal, the brilliant red dye, is made from the bodies of insects that live on the prickly-pear cactus plant in that country.

Mining is very important. The mountains are wonderfully rich in the precious metals, especially silver.

Cocoa is exported, also an excellent grade of tobacco. Coffee thrives on the tablelands of the southeastern States. Humming-birds and parrots abound. The population is now about 11,700,000. Most of the inhabitants are Indians and half-breeds, very ignorant and unprogressive, though there are some educated and refined people of Spanish descent. The implements used are of the rudest kind, such as were common centuries ago.

The Central American republics are very much like Mexico in their natural features. Coffee, bananas, indigo, mahogany, and logwood are the leading exports.

As the country is in the torrid zone the growing season continues throughout the year. Corn is planted in May and harvested in September, and planted again in September and harvested in April on the same ground.

Tortoise-shell, from which combs and ornaments are made, comes from the backs of sea turtles caught upon the coast of this country. Bananas and cocoanuts grow here in abundance. India rubber is an export.

Speak of the proposed ship canal which is to cross from the Caribbean Sea to the Pacific Ocean, through Lake Nicaragua. By a map of the Western Hemisphere show how the long voyage around South America may thus be saved.

Cuba, Puerto Rico, Haiti, and Jamaica are the large islands of the West Indies. They are the great cane-sugar producers of the world. In Cuba grows the finest tobacco known. Mention the landing of Columbus on San Salvador, or Watling Island, one of the Bahamas.

The low coast region of all these countries is very unhealthy, and it is dangerous for people of the north to spend the summer there.

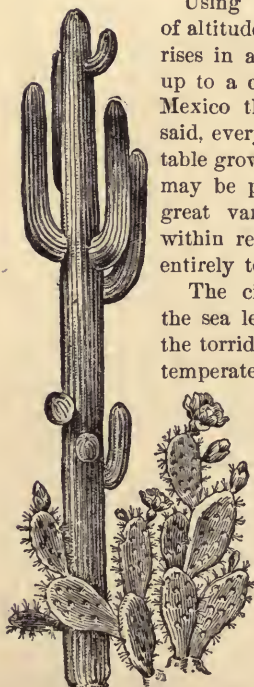
Explain that a portion of the West India Islands consists of a chain of mountains extending in a curve from South America, the bases of which are under water, and that north of this row of mountain islands the group of sandy mounds, or hills, which rise just above the surface, are called the Bahama Islands. Speak of many other such hills which do not quite reach to the surface, and are called "banks." Show how the row of rocky islands seems to surround a large area of water like a wall, and state that this area, because it is so enclosed, is called a sea.



COCOA POD AND LEAVES.



A BANANA PLANT.



CACTUS PLANTS.



LESSON 52.

South America.

In what direction from us is South America?

South. A line drawn south from Massachusetts would pass through the longest part of South America, and most of its surface would be east of that line.

In what zone is the greater part of South America?

What part is crossed by the equator?

In what zone is the southern part?

In what direction does the longest part of this Grand Division extend?

What ocean is on the east?

On the west?

What sea upon the north?

Is the coast-line even or uneven?

Name the four capes at the extreme north, east, south, and west.

What large island at the south?

What strait separates it from the mainland?

Where are the Falkland Islands?

What island at the mouth of the Amazon River?

What great system of mountains extends along the western coast?

Look on the map of the Western Hemisphere and notice that the Andes are a continuation of the Rocky Mountain system in North America.



At which end of the continent do the peaks of the Andes rising from the ocean form many islands?

Are there many rivers on the west slope of the Andes?

Are they long or short?

Is the Pacific Slope wide or narrow?

Are the mountains high near the coast?

Yes; they rise suddenly.

Is the mountain system wide like that of the Rocky Mountains, or narrow?

Are there mountain ranges in the east along the coast somewhat like the Appalachians in North America?

What range runs nearly east and west in the northern part?

Which way does the great slope of the Andes extend?

How do you know?

By the course of the rivers.

LESSON 53.

What large and long river rises in the Andes near the western coast and flows across the continent into the Atlantic?

Has it many branches?

What is the great plain which it drains called?

The Great Central Plain.

What other grand division has a great central plain?

North America, drained by the Mississippi River.

What great river drains the northern part of the Great Central Plain?

What great river drains the southern part of this plain?

Into what ocean do nearly all the rivers flow?

How many countries are there in South America?

Which one is nearly as large as all the rest combined and nearly as large as the United States?

What narrow country west of the Andes extends north and south for more than half the length of the Grand Division?

What country lies east of Chile?

What two small countries lie between the Argentine Republic and Brazil?

What country having no sea-coast lies west of Brazil?

Begin with Venezuela and repeat the names of the countries in their order which have an Atlantic coast.

Those which have a Pacific coast.

Name the capital city in each country of South America.

Commit to memory the names of the South American countries.

NOTE.—Do not neglect the scale-slip exercise on the map.

LESSON 54.

South America.—Surface.

What is the general shape of South America?

Like North America, it is triangular.

What is the great natural feature of the Grand Division?

The Andes system of mountains.

How long is this system?

About four thousand five hundred miles, the longest in the world.

Are the Andes very high?

Much higher than the Rocky Mountains; some of their peaks are more than four miles high.

How far south do the Andes extend?

To the southern point of Tierra del Fuego.



ANDES MOUNTAIN SCENE.

How do they end?

In a high, rocky cape, or promontory, whose cliffs rise abruptly out of the sea three thousand five hundred feet.

Which is the highest peak of the system?

Mount Aconcagua, in Chile, which was once a volcano.

How many volcanoes are in the Andes?

More than fifty.

Describe the western slope of the Andes Mountains.

It is very steep. There is a narrow table-land, or plateau, between the mountains and the ocean.

Is there a highland region as in the Rocky Mountains of North America?

In the northern half are broad plateaus, but in the southern half there is only a continuous chain.

What other mountains in South America?

The Parima Mountains, running nearly east and west, bounding the plain of the Amazon on the north.

Where are the Brazilian Highlands?

They follow the direction of the eastern coast of Brazil.

How do the Parima and Brazilian mountains compare with the Andes?

They are low in comparison; rather highlands, or plateaus, than mountains.

What is the general slope of most of South America?

It is from the Andes eastward to the Atlantic Ocean.

ORAL EXERCISE.

Continuous. Abruptly. Comparison.

The Andes are the highest mountains on the earth except the Himalayas in Asia.

The western slope is so steep and abrupt that it seems to sailors off the coast to rise like a wall from the sea. On nearer approach it is seen that the peaks are really from sixty to one hundred miles from the coast.

Near the southern edge of the torrid zone the Andes broaden, forming a plateau, or highland. This extends nearly to the equator, where the system narrows and the ridges grow higher. Here are several of the loftiest peaks of this system, and here is the city of Potosi, the highest city in the world.

Three ranges spread out from here northward to the Caribbean Sea with high valleys between them. These plateaus are all in the torrid zone. They beautifully illustrate the effect of elevation on temperature. Mt. Cayambe, directly upon the equator, the center of the torrid zone, is perpetually covered at the top with snow. One person may be suffering from torrid heat at its foot while another suffers from frigid cold at its summit, and between these extremes all gradations of plant life, such as might mark a range upon a surface from the equator to British America, may be found within a distance of a few miles.

Show pupils that it is elevation which makes the climate so delightful in this hot belt of South America. The civilized portion of the inhabitants is generally found upon the highlands.

Explain that a volcano is an opening in the earth through which lava, or melted rock, and steam, etc., are forced by the action of heat within. Volcanoes are found as a rule in mountainous regions.

Describe an earthquake, and tell pupils that they are very common in the Andes country. Many cities have been ruined by them. In 1812 twelve thousand people were killed by the destruction of Caracas in the Andes by an earthquake, and in 1861 the city of Mendoza was totally destroyed. Many of the fearful gorges of the mountains were no doubt opened by earthquakes. So broken are the Andes that nothing on wheels can cross them. All travel is on foot or on the backs of mules. Merchandise is carried across the mountains on the backs of the llama, a small beast something like a camel.

LESSON 55.

South America.—Drainage.

What ocean furnishes nearly all the water which falls as rain in that part of South America lying in the torrid zone?

The Atlantic.

Which way does the wind blow that bears this moisture from the ocean?

It blows west for months across the country from the Atlantic to the Andes.

What happens when it reaches the rapidly rising slope of those mountains?

It is chilled, and its moisture is condensed into drops which fall to the ground as rain.

What is the result?

It rains on the east slope of the Andes nearly every day for months at a time, although for hundreds of miles in Southern Peru and Northern Chile, west of the Andes, it does not rain.

What ocean furnishes the rainfall for the temperate zone of South America?

The Pacific; its winds blow eastward.

On which side of the Andes does this rain fall?

Mostly on the west, as the mountains chill the moist wind causing the water to fall upon that side.

Do many rivers rise on the eastern slope of the Andes?

Yes; along the whole three thousand five hundred miles rivers rise and flow eastward.

What river do many of them unite to form?

The Amazon.

How many branches do you see flowing into it from the north? From the south?

Do these rivers cover a great extent of territory?

Into what ocean does the Amazon flow?

Is it a great river?

It is the largest river on the earth and drains the greatest plain.

Is there a system of rivers north of the Parima Mountains?

Which is the largest river of this system?

Which way do the rivers flow from the Brazilian Highlands?

How does the drainage of the Pacific Slope flow?

The rivers are few and short and are often mere torrents pouring down from the mountains.

Which way do the rivers of the Argentine Republic flow?

South and east to the Atlantic.

What great river belongs to this system?

ORAL EXERCISE.

Condensed. Torrents. Result.

The Amazon is about one hundred and fifty miles wide at its mouth, and its current is so strong that for two hundred miles it forces the salt water of the ocean back, remaining fresh and unmixed. Two thousand miles from its mouth it is a mile and a half wide, and it is navigable almost to the Andes. So low is the plain through which the river and its branches flow that during the rainy season it resembles a sea.

Impress upon pupils that great as this volume of water is, and greatly as it is increased by other rivers of the vast eastern slope, all flowing into the Atlantic, it and all its associate rivers are only the return in a visible form of that current which is constantly passing along as invisible vapor from the ocean to the mountains.

Explain the movement of vaporous winds from the Atlantic, which, in the form of clouds, strike the impassable barrier of the Andes, really higher than they, and fall back as rain.

In the northwestern part of Brazil is a plain so level that one of the branches of the Amazon is actually connected by a natural canal with one of the branches of the Orinoco. The plains throughout the valley of the Amazon are covered with vast forests filled with a dense undergrowth of luxuriant vines and flowers. These plains are called "selvas." To the north of this the Orinoco flows through wide, grassy plains called "llanos." In the central part of the Argentine Republic are wide plains corresponding with those of the Orinoco country, called "pampas." Both the llanos and pampas correspond to our western prairies.

Describe the herds of cattle, horses, and sheep which feed there, attended by *gauchos*, the cowboys of that country. Speak also of the South American ostrich and of the corn and wheat raised upon these plains.

The lowlands are very unhealthful, abound with insects and reptiles, and are inhabited by native Indians.

LESSON 56.

South America.—Climate, etc.

In going south in South America would we find the climate warmer or cooler?

Why?

Is there a zone there like ours? What is it called?

Does the south temperate zone have four seasons?

When it is summer here what is the season there?

Winter. The seasons are the opposite of ours.

Why?

What republic in South America has about the same climate as our own?

The Argentine Republic.

Why?

Because it is in the temperate zone, as we are, and about the same distance from the equator.

Do wheat, corn, potatoes, etc., grow in that country as they do in ours?

They do.

What vegetable productions are exported from South America?

Coffee, india rubber, quinine, tobacco, tapioca, chocolate, wheat, sugar, tropical fruits, bamboo, vegetable ivory, mahogany, rosewood, and woods for dyeing cloth.

What animal products are exported?

Hides, tallow, horns, horse-hair, wool, etc.

What mineral productions are exported?

Chiefly precious stones, niter, etc.

What is the population of South America?

About thirty-three millions, or nearly half that of the United States.

What kind of people are they?

They are Whites, Indians, Negroes, and mixed races. The Whites are chiefly of Spanish or Portuguese descent, and those languages are generally spoken.

What are the leading industries?

Farming, cattle-raising, and mining. Very little manufacturing is done.

What is the form of government?

All the countries are republics except Guiana, which belongs to European nations.

On what government are most of those of South America modeled?

On ours. There are no kingdoms or empires on the Continent of America.

ORAL EXERCISE.

Reverse. Modeled.

Emphasize the fact that the climate becomes cooler from the equator toward the south pole, just as it does toward the north pole, and that the United States has its climatic counterpart in that country of the south known as the Argentine Republic.

Explain that the earth, when it inclines countries in the north temperate zone so as to expose them to the *direct* rays of the sun, causing summer, is inclining the countries of the south temperate zone so that they receive the rays *indirectly*, producing winter.

Teach pupils to find countries of corresponding climate in North and South America by measuring from the equator equal distances on a map of the Western Hemisphere. Show them that the climate

of Cape Horn should be similar to that of Hudson Bay, for instance, and that of Uruguay to that of Virginia.

In discussing the exports of South America explain that the country is undeveloped as compared with the United States. The native Indians are like ours, indolent and without enterprise, and the whites are as yet too few to show such results as are visible in this country.



Most of the exports are of natural productions and small in amount compared to the magnitude of the country. Coffee is the principal export. Brazil produces more than half the world's supply. Nearly all the rubber for rubber goods comes from the Amazon Valley, where it is gathered by natives. Vegetable ivory is a nut which, when dry, becomes like ivory. Millions of buttons are made from it in this country. No part of the world produces finer woods, or in greater variety, for ornamental work than South America.

Quinine, an effective medicine for the cure of fevers, is made from the bark of the cinchona tree, which grows on the eastern slope of the Andes in Peru and Ecuador.

Tapioca is a gummy starch made from the root of the manioc, or cassava plant, which grows wild in the Amazon Valley. It is used in our country for making puddings. In Paraguay and Brazil this is a leading article of food, as rice is in China, or as wheat is with us. In South America very little tea is used. Instead, the people steep and drink a native leaf dried and prepared called *maté* (mah'-tay). It is consumed far more generally than tea is with us.

On the plains, or pampas and llanos as they are called there, graze countless thousands of horses and cattle. The cattle are slaughtered for the hides and tallow, both of which are largely exported. Horses are slaughtered by thousands for their hides, grease, and the hair of the mane and tail. The hides are for leather, the grease for soap-making, and the hair for cloth and for hair mattresses.

The minerals of South America are found mostly in the Andes Mountains, just as in North America they are found in the Rockies. Some of the richest silver mines in the world are in Peru.

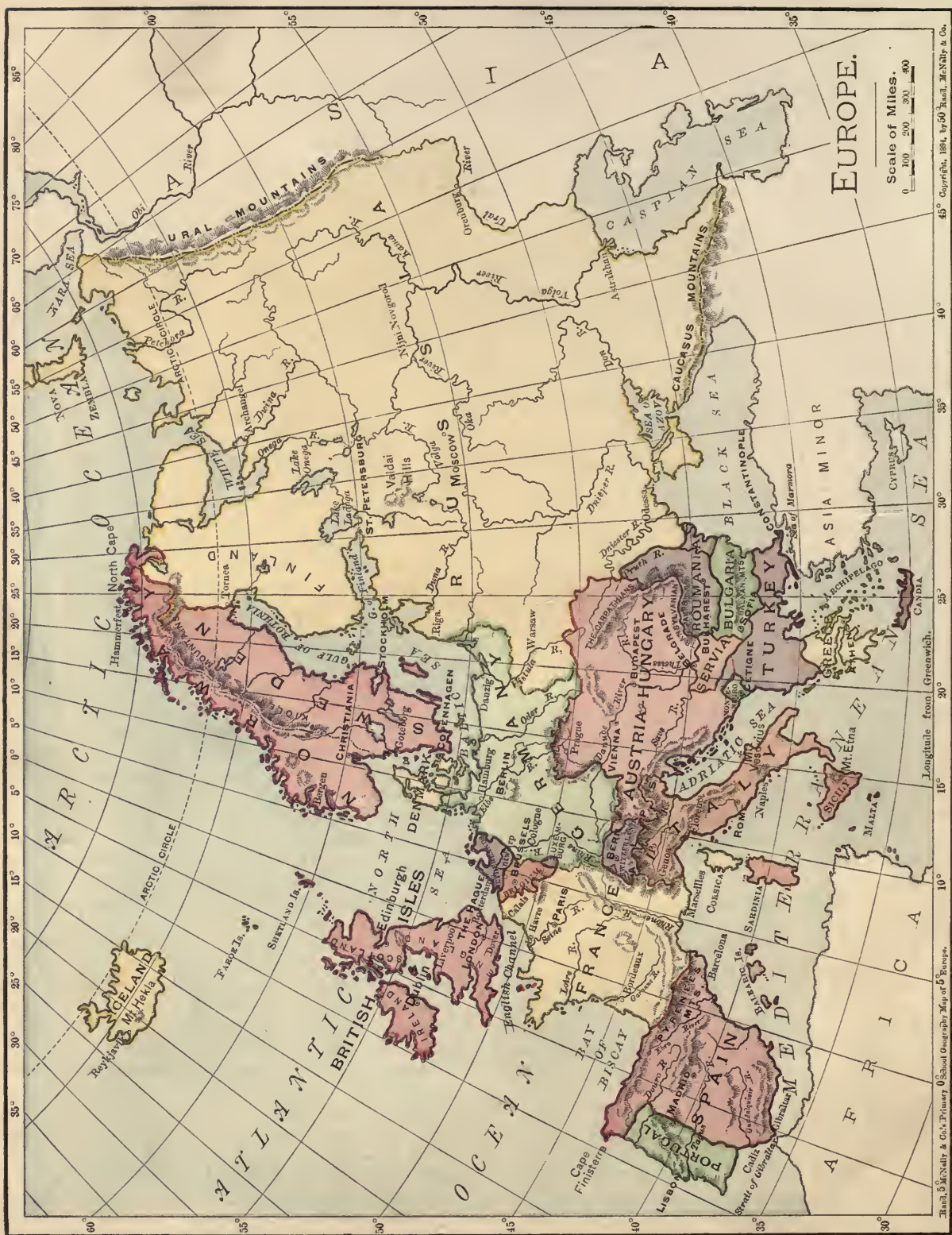
Most articles of manufacture are imported, mainly from Europe, though the people are beginning to trade more largely with the United States.

As South America develops in future it will become one of the wealthiest and most prosperous parts of the earth, its natural riches being inexhaustible.

In Brazil the official language is Portuguese; in all other sections, except Guiana, Spanish is spoken. The Indians have languages of their own.



COFFEE PLANT.





LESSON 57.

Europe.—Map Study.

What part of the Eastern Continent is the Grand Division of Europe?

The northwestern.

Which way does this Grand Division lie from North America?

What ocean on the north? On the west?

What Grand Division on the south?
Africa.

What sea on the south between Europe and Asia?

What sea on the south separates Europe from Africa?

What mountains on the south separate Europe from Asia?

What sea, mountains, and river on the east separate Europe from Asia?

What sea on the north is a branch of the Arctic Ocean?

What sea on the west opposite the middle of Europe?

What islands bound this sea on the west?

What sea connected with the North Sea extends east and north?

NOTE.—The northern half of this sea is called the Gulf of Bothnia.

What two countries forming a peninsula separate this sea from the Atlantic Ocean?

What cape on the north of this peninsula is the most northern point of Europe?

What country forming a peninsula south of this extends north between the North Sea and the Baltic Sea?

What channel south of England connects the North Sea with the Atlantic Ocean?

What bay west of France and north of Spain?

Where is the Strait of Gibraltar?

NOTE.—The strongest fortress in the world is located here on the Spanish side. By it the English nation controls the passage of the strait.

What natural body of land do Spain and Portugal form?

What country is a peninsula extending into the Mediterranean Sea?

What smaller sea makes it a peninsula?

What smaller country is also a peninsula in the Mediterranean?

In what part of Europe are most of the mountains?

Which way does the land slope north of this ridge?

To the northwest.

South of this ridge?

To the southeast.

What great river flows into the Caspian Sea?

Into the Black Sea?

To what system do these rivers belong?

Write down the names of the countries of Europe in order of their size, beginning with Russia and copying from the map.

How many are there?

Commit to memory the ten largest capital cities.

From what sea and through what strait do most vessels come which bring us lemons and other fruits from the south of Europe?

LESSON 58.

Europe.—Continued.

What is Europe?

It is one of the three grand divisions of the Eastern Continent in the Eastern Hemisphere.

Name the other two Grand Divisions.

Asia and Africa.

How large is Europe?

A little larger than the United States.

What is the nature of its outline?

It is very irregular, with peninsulas extending into the ocean, and seas, gulfs, and bays extending into the land.

What is the boundary between Europe and Asia?

The Ural Mountains, the Ural River, and the Caspian Sea.

Which way is Europe from our country?

The southern point of Europe, Gibraltar, is directly east from the entrance to Chesapeake Bay.

What part of Europe is opposite to our northern boundary?

The middle of France, Switzerland, and Austria.

Which lies farthest toward the north pole, then, Europe or the United States?

Europe.

Which should have the colder climate?

Europe; but it has not. Its climate is about like ours.

Why is its climate as warm as ours?

It is warmed by winds that blow from the Gulf Stream.

What is the Gulf Stream?

It is a great current of warm water flowing through the Atlantic Ocean near the coast of Europe.

Are there other ocean currents?

Yes; in this and other oceans—some warm from the torrid zone and some cold from the frigid zone.

Why is the Gulf Stream warm?

Because it flows from the torrid zone.

How wide is it?

It is from sixty to three hundred miles wide and is very deep.

How fast does it flow?

From about a mile and a half to about five miles an hour.

ORAL EXERCISE.

NOTE.—The distinction between a grand division and a continent should be preserved. A continent is surrounded by water. A grand division may be a part of a continent, as Europe is, with no line of separation from another grand division, except such as may be established by general consent.

Explain the advantage to Europe of its broken outline. The great proportion of water surface modifies the climate and enables shipping to reach the interior.

To show that Europe lies farther north than the United States, refer to the map of Europe and explain that the northern line of the United States is only as far north as the middle of France, and show that most of Europe is north of that.

The Gulf Stream flows from the Caribbean Sea through the straits between Florida and Cuba, following the eastern coast of North America and bearing away eastward from Newfoundland, where it spreads out something like a fan. Some of the stream passes each side of Iceland, some touches the British Isles and the Scandinavian coast, and more goes southward along the coast of Spain and Africa. Hammerfest, the most northerly town in the world, situated far within the frigid zone, is, because of the Gulf Stream, as warm in winter as Boston.

Tell the pupils that the Gulf Stream is a clearly defined and limited current, differing in color from the adjacent water. Its temperature in the straits of Florida

in summer is about eighty-four degrees, or twelve degrees above summer heat, while north of that, along the Atlantic Coast, the stream is from twenty to thirty degrees warmer than the water on either side.

There are several other warm ocean currents, one of which, the Japan Current, sweeps from the eastern coast of Asia toward our western coast. The wind blowing over this current so warms our Pacific Coast States that Washington and Oregon have a much milder climate than New England, though they are as near the frigid zone. It is this current which renders the southern part of Alaska so mild in climate, while the northern part is so extremely cold.

LESSON 59.

Europe.—Continued.

North America and South America have each a great central plain. Has Europe such a plain?

Yes; Russia, which is more than half of Europe, lies in a great plain.

Is the center of this plain the lowest, as in the other grand divisions?

No; a divide crosses the plain north-easterly.

What two river systems has Europe?

The northwestern and the southeastern.

What is the level of the Caspian Sea and some of the country north of it?

Lower than the level of the ocean.

What other part of Europe is below the sea level?

A part of the Netherlands.

Austria-Hungary is a valley almost enclosed by a wall of mountains. What river, with its branches, drains it?

Are any of the rivers of Europe navigable?

Yes; especially the Danube, the Rhine, and the Volga.



A DIKE SCENE IN THE NETHERLANDS.

What are the productions of Europe?

Similar to those of the United States.

Of what race are the inhabitants?

The white race, to which most Americans belong.

Is Europe densely peopled?

It is. Asia is the only grand division containing a greater population.

What are the industries of the people?

They are similar to those of this country, but in some respects more skill is shown.

Is the commerce of Europeans extensive?

Yes; their manufactured goods are sold in all parts of the world.

Name six leading commercial ports.

London, England; Hamburg, Germany; Antwerp, Belgium; Rotterdam, the Netherlands; St. Petersburg, Russia; Havre, France.

What are the principal minerals of Europe?

Coal, iron, platinum, quicksilver, silver, copper, lead, and salt.

What are the forms of government?

They are nearly all monarchies. France and Switzerland are republics.

ORAL EXERCISE.

Epecially. Navigable. Degraded.

Show that the northwestern slope drains into the Atlantic and Arctic oceans. The slope of Sweden drains into the Baltic Sea, but its waters reach the Atlantic as through a channel. The water of the Baltic contains much less salt than that of the ocean.

The southeastern drainage reaches the Atlantic through the Mediterranean Sea, except that which enters the Caspian Sea. This sea has no outlet, and evaporation removes the water as fast as its rivers pour it in.

The divide that crosses the plain in Russia is so low that some rivers flowing in opposite directions are connected by canals, and thus boats may pass from the Caspian Sea to the Baltic or to the Arctic Ocean.

Find a key for oral discussion of Europe in the fact that probably many members of your class are of recent European descent. Encourage each to tell what he has learned at home about the country of his parents. Pupils of English descent may mention England; of Irish, Ireland; of German, Germany, etc.

Let each one point out on the map of Europe the country of his ancestry and tell how large it is, what are its principal cities, its form of government, the language of its people, its industries and products. Ask each pupil to be prepared at the next recitation to tell the class something of Europe which he has learned at home from his parents.

Explain that arts and manufactures have been cultivated in Europe for centuries, therefore it is not strange that in some lines Europeans excel Americans.

Describe platinum as a rare and precious metal more valuable than silver and the heaviest of all metals. It was at one time used by Russia for coinage.

Explain the theory of monarchical government to the class and let them state wherein a republican government differs from it. Finally, ask them under which they think the people would be freest and happiest.



LESSON 60.

Asia.

In what zone does most of Asia lie?

In what zone is the southern part?

The northern part?

What part of the Eastern Continent does Asia occupy?

Which way is it from North America?
West.

Where do the two continents come nearest together?

What strait separates them?

What cape, forming the most eastern point of Asia, projects into this strait?

What ocean is on the north? On the east? On the south?

What sea between Asia and Africa?

What isthmus connects Asia with Africa?

What mountains, river, and seas separate Asia from Europe?

Is the coast even or uneven?

What two seas on the northeast form the peninsula of Kamchatka?

What large islands east of the central part?

What sea do they partly inclose?

What other sea on the east is a branch of the Pacific?

What peninsula lies between them?

What large group of islands southeast belongs to this Grand Division?

What sea do they partly inclose?

What large bay south of Asia?



Where is the Malay Peninsula?

What large sea south of Asia?

What great mountain system forming a divide extends across Asia from east to west?

What system extends northeasterly to East Cape?

Which way do the rivers flow on the slope north of the Altai Mountains?

Into what ocean?

What is the general course of the rivers on the southern slope of the Himalayas?

Into what ocean do they flow?

In what direction and into what ocean do the rivers between these ranges flow?

What peak of the Himalaya Mountains is the highest in the world?

Name three principal rivers of the northern slope.

What small sea in the west receives part of the drainage of this slope?

Has it an outlet?

Name three principal rivers of the eastern slope.

Of the southern slope.

What large country in the north is a part of the Russian Empire?

What large empire south of this?

What small kingdom on the east coast?

What country south of the Himalaya Mountains?

What two small countries northwest of this?

What country south of Siberia and the Caspian Sea?

What country west of Persia?

What empire composed of islands on the east of Asia?

What two countries lie partly in Europe and partly in Asia with their capitals in Europe?

What country south of China?

What one between it and British India?

Write down the names of the countries with their capitals, copying from the map.

LESSON 61.

Asia.—Continued.

How large is Asia?

It is the largest of the Grand Divisions, covering one-third of all the land.

Is it as deeply indented by gulfs and bays as Europe?

Which coast is bordered by five seas? Name them from north to south.

What walls in, or incloses, these waters causing them to be seas?

Rows of islands.

What are these islands?

Peaks of mountain chains rising from the bottom of the ocean.

Where is the great highland of Asia?

In the southwestern part of the Chinese Empire. It is the Plateau of Thibet and is the highest land surface in the world.

Where is the lowest land on the earth?

Around the Dead Sea, in Asia; it is a quarter of a mile below the ocean level.

Do Russia in Asia and Russia in Europe lie mainly on the same slope?

Yes; upon the Arctic Slope.

What name is given to that part in Northern Asia?

Siberia.

What kind of country lies north of the great mountain system?

A plateau, sloping towards the Arctic Ocean. It is unfavorable for agriculture.

Where are the better parts of Asia?

In the lowlands near the coast, in the river valleys, and in the Malayan Islands.

What is the climate?

The most varied upon the earth. The country reaches from south of the equator to near the north pole, and includes the lowest and the highest land surfaces known.

Is the country well peopled?

In some parts there are few or no human beings, and in other parts, as around the Yellow Sea, it is more thickly peopled than any other part of the world.

To what races do the inhabitants belong?

To the white, yellow, and brown races.

To what degree are they civilized?

They range from the degraded savage to the progressive Japanese.

Which are the leading countries?

China, Japan, India, and Russia.

ORAL EXERCISE.

Range. Indented.

Ask pupils if they have seen Chinamen. How do they dress? How do they wear their hair? What is their complexion, etc.?

Explain that they come from Asia and that their country is the principal one in that Grand Division. It is larger than the United States and has about six times as many inhabitants. One-fourth of the people of the globe belong to the Chinese Nation. Most of the population is in the southeastern part of the empire. Not only the Plateau of Thibet, but the greater part of Asia lies high above the sea.

Show that the thickly populated part of Asia is south of the great mountain chains, and that though Asia has been so long inhabited by the human race, the country north of those mountains remains still comparatively uninhabited, because it has been thought to be not well adapted to the needs of man.



JAPANESE CHILDREN.

In the southern part of Siberia there is much fertile land which is gradually being brought under cultivation. Much of the ground on the northern slope is frozen so deeply that it never thaws out.

India lies south of the Himalayas and is also densely populated. It has about four times as great a population as the United States. The people of India are mostly Hindoos, though there are numerous races.

Tell pupils of the Empire of Japan and that it is the Island Empire. It consists of over four thousand islands, of which Nippon is the largest. The people are of the yellow race and resemble the Chinese, except that they are somewhat smaller. The population of Japan is nearly two-thirds as large as that of the United States, though its area is less than that of California.

More than half the human beings in existence dwell in the southern and southeastern parts of Asia.

In the earth's early history Asia led in civilization, but in modern times the people of Europe have advanced rapidly, while those of Asia have progressed slowly; consequently Asiatic civilization is not now nearly so advanced as is that of Europe and the United States.

When Europe was yet barbaric, the Chinese were so civilized that they had invented the compass, gunpowder, the art of printing, etc. But advancement was checked in Asia while it continued in Europe, hence Asia is left far behind. The United States has progressed more in a hundred years than China has in forty centuries.

Show that the Malayan Islands really belong to Asia, by tracing them as continuations of the mountains of the mainland. These islands are wonderfully productive and are densely populated. Though having but about one-fifth the area of the United States, they have nearly two-thirds as great a population. Most of them belong to the Netherlands.

LESSON 62.

Asia.—Continued.

Are the conditions favorable for farming in Asia?

They vary. In the northern part are cold and barren wastes, but upon the lowlands along the coasts, south of the Himalayas, and on the Malayan Islands, all kinds of farm products thrive.

What is the leading industry?

Farming; though mining and manufacturing are important.

Are the farms large?

No; there are so many people that each farmer can have but a small piece of land.

What are the principal crops?

Rice, tea, cotton, silk, opium, sugar, indigo, coffee, spices, and wheat.

Is manufacturing extensive?

Millions of people make goods, but machinery is little used. They work mostly by hand.

What do they manufacture?

Cotton, silk, and other cloths, laces, earthenware, wooden and ivory work, fire-crackers, floor matting, etc.

Is mining important?

Metals are abundant in Asia; in Japan mining is a great industry.

Is fishing an industry?

Yes; many people follow it.



A CHINESE VESSEL.

Describe the commerce of Asia.

It is important in certain branches, but not extensive considering the great population.

What surplus is there for export?

Tea, coffee, spices, drugs, silk, cotton, wheat, and art goods.

Name some of the commercial cities.

Calcutta and Bombay in India; Hongkong in China; Yokohama in Japan; Batavia in Java, and Padang in Sumatra.

Has Asia proper convenience for commerce?

It has not. Most of the overland commerce is by caravan, though China has much river and canal navigation.

What nation in Asia has advanced most in civilization and commerce?

Japan.

What route do most vessels take between Asia and Europe?

Through the Red Sea and Suez Canal.

What was the route before the opening of that canal?

Around the south end of Africa.

How do the products of Asia mainly reach the people of the United States?

By vessel to San Francisco, and from there by rail to all parts of the country.

What were the routes before the building of the Pacific railways?

By way of Panama and around Cape Horn.

ORAL EXERCISE.

Convenience. Caravan. Route.

Explain that Asia contains much land that is of but little use to mankind. It is mostly high, mountainous, cold, rainless, and barren; but those portions which are good are very good, and have been the home of the human race for many centuries. So thickly do human beings swarm in the southern part of Asia that it is difficult for them to get enough from the soil to support life. Every inch of ground is cultivated. In some places hillsides are dug into terraces like stairs, so as to make level places for planting, and rafts are floated on the water covered with earth and used for gardens.

Rice is the leading grain, as wheat is with us, and far more rice is grown in Asia than wheat in America. It is the principal article of food for the people. Another important article of food is fish. They are cultivated in rivers, lakes, ponds, etc., with as much care as we give to the raising of sheep and cattle.

The great crop of Asia is tea. It is the leaf of a bush about as high as a boy's shoulder, looking something like a laurel or bay bush. There are different kinds of tea, just as there are different kinds of grapes or currants, etc., with us, and each kind has a flavor of its own. The difference between green and black tea, however, is caused by the method of drying or curing. Tea is

grown in China, India, Japan, Ceylon, and the islands along the east coast of Asia.

Sago, a well-known food-starch obtained from the trunk of several species of palm, is an important article of export from the East Indian Islands.



SAGO PALM.

Speak of grades of coffee. The grocer keeps "Rio," which comes from South America; "Java," which comes from Java and the adjoining islands south of Asia; and "Mocha," brought from the southwestern part of Arabia in Asia.

Take a piece of silk thread and unravel it so as to show the filaments. Explain that they are something like a spider's web and are made by a worm much as a spider makes his web. A great many people in Asia earn their livelihood by raising these worms in order to procure the silk. Great plantations of mulberry trees are kept for the leaves which are picked and fed to the worms.

Cotton is raised extensively in Asia. It now forms one of the leading exports of India.

There are few railroads in Asia. The English, to whom India belongs, have built some in that country, and now much of the wheat which is consumed in England comes from India, being brought to the coast for shipment by these railroads.

The Japanese are wonderfully skillful workmen. They are very successful flower-growers. The camellia and the chrysanthemum are Japanese flowers. Tokyo, the capital, is about as large as New York City.

Describe opium as one of the most important medicines in use. Explain that it is the gum obtained by drying a white milky-looking juice, which flows from the capsule, or seed-pod, of the poppy when it is cut. Opium comes from Asia, where great fields of poppies are cultivated by the natives.

Mention the steppes of Central Asia, and the Tartar tribes which roam over these great half-barren plains with their herds of camels, sheep, cattle, etc.

Tell pupils about Siberia, in the northern portion of which winter reigns nearly all the time; that many of the inhabitants are criminals, or their descendants, sent from Russia, as to a prison, and that the principal exports are precious metals and furs.



THE POPPY.



LESSON 63.

Africa.

In what part of the Eastern Continent is the Grand Division of Africa?

In what direction from Europe? From Asia?

In what zones is it?

What part is crossed by the equator?

What sea on the north separates Africa from Europe?

What sea between Africa and Asia?

What isthmus connects Africa with Asia?

What canal across this isthmus?

What ocean on the west? On the east?

What large gulf midway on the west coast?

What gulf leads to the Red Sea?

What large island southeast of Africa?

What channel separates it from the mainland?

Name the capes at the extreme points — north, east, south, and west.

Is the coast-line even or uneven?

What mountains near the western coast?

What mountains are in the south? In the east? In the north?

What great desert in the northern part?

Where is the lake region?

Where is Lake Tchad?

Has the lake an outlet to the ocean?

What route would a vessel take in going from England to the Gulf of Aden? To Calcutta?



What country in the northeast part of Africa?

What is its capital?

What small country near the Red Sea?

Where is Morocco? Algeria? Tunis? Tripoli?

NOTE.—These were formerly known as the Barbary States.

What country is drained by the Niger River system and Lake Tchad?

Where are Liberia and Sierra Leone?

What English colony in the south?

What two countries north of it?

LESSON 64.

Africa.—Outline, Surface, Drainage.

How large is the Grand Division of Africa?

It is smaller than Asia and larger than North America.

What is its outline?

Very regular, much like South America.

Has it many good harbors?

It has a few good natural harbors.

Has Africa any great mountain system?

No; the mountains are mostly separate ranges.

Where are the mountains?

They extend almost entirely around the Grand Division, near the coast.

How does Africa differ in surface from the other grand divisions?

Almost the whole of it is a vast plateau.

Where is this plateau the highest?

In the eastern part of Central Africa.

What are the highest mountains?

Kilimanjaro, Kenia, and Ruwenzori.

Where is the highest land which forms the Great Divide?

Along the line of the large lakes, and northwest to the Sahara Desert.

Into what slopes is Africa thus divided?

Into eastern and western.

What great rivers, with their branches, drain these slopes, and into what waters do they empty?

The Nile, north into the Mediterranean Sea; the Kongo, west into the Atlantic Ocean; and the Zambesi, east into the Indian Ocean.

What lake in the Soudan receives the drainage of an interior basin?

What large river drains the country west of this basin?

The Niger.

What river, with its branches, drains the country south of the Zambesi Valley?

The Orange River, which flows west into the Atlantic Ocean.

How do the rivers of Africa reach the coasts?

Through passes, or breaks, between the mountains near the coast.

For what are they remarkable?

For cataracts and falls, which interrupt navigation, and for their annual overflow.

How extensive are the coast plains?

They are narrow strips between the mountains and the coast.



VESSELS PASSING THROUGH THE SUEZ CANAL.

ORAL EXERCISE.

Annual. Interrupt. Natural.

Show that Africa and South America resemble each other in outline. They have the same general triangular shape, with the larger part to the north and a longer coast line on the west, and there is the same reason for neither having many good natural harbors.

Explain that the mountains of Africa do not form continuous chains like those of the other grand divisions, but lie in separate ranges. Remind pupils that "up in the air" is always cold, and that the high mountain region cools the moisture-laden winds from the warm Indian Ocean, causing them to drop their burden of water. This water, through rivers and springs, feeds the great lake system of the African lake region. The rainfall is very heavy in this region, the rainy season lasting six months. At this time all rivers fed by these lakes rise to a considerable height, the Nile being most remarkable; its annual rise is from thirty to thirty-five feet. A few lakes during the dry season are only marshes.

Although most of Africa is a plateau, it is divided by ridges of land into several valleys. Each one of these valleys is drained by a great river and its tributaries, and the valley receives its name from the river by which it is drained. Very rich, fertile land is found in these valleys, made by alluvial deposits during the annual overflow of the river. (See Lesson 44.)

The rivers of Africa have a steep descent; hence there are many cataracts and falls. Navigation on the Nile is interrupted by numerous cataracts. The Kongo and Zambesi rivers are navigable for several hundred miles, when they are rendered impassable by falls. The Victoria Falls, in the Zambesi River, are remarkable for their grandeur.

Explain that explorers in recent years have added much to our knowledge of Africa, yet there are parts of the interior which they have never reached.

LESSON 65.

Africa.**Climate, People, and Industries.**

What parts have a temperate climate?

The northern and southern parts; they lie in the temperate zones.

What is the climate of the torrid zone?

Very hot, moist, and unhealthy.

What months does the rainy season include?

The winter months of the temperate zones.

Is Africa densely peopled?

No; though much larger than Europe, it has less than one-half as many people.

To what race do the people belong?

Principally the black, except in the northern part.

What classes of people live there?

Both savage and half-civilized peoples.

Are there many independent States?

No; the larger part of Africa is controlled by different European nations.

What are the independent countries?

Morocco, Liberia, the Orange Free State, and South African Republic.

What are the principal occupations?

Agriculture, mining, and commerce.

Name the principal articles of export from Africa.

Hides, ostrich feathers, ivory, palm oil, cotton, etc.

Where are diamonds and gold found?

In the southern portion.

What are the means of carrying?

By caravans across the desert, by boats on the rivers, and by slaves in the interior.

ORAL EXERCISE.

Explain that if Africa were penetrated by great sea inlets, as Europe and Asia are, its climate would be greatly benefited.

Speak of the Desert of Sahara, which is more than half the size of the United States. This and the one east in Arabia are deserts, owing to the lack of rainfall, caused by the wind from the northeast dropping its moisture on the eastern slopes of the mountains of Asia, and the wind from the southeast leaving its moisture to fill the great lakes before reaching the deserts.

In the low part in the torrid zone, where the rainfall is abundant, there is a dense growth of vegetation, which, decaying, emits unhealthy vapors, causing agues and fevers among all who are not natives. This applies to all hot countries, especially to Africa.

Show that that part of Africa between the Great Desert and the Mediterranean Sea emerged from savagery before Europe did, and that great empires, leading the world in civilization, have existed there. Centuries before the dawn of Christianity, Egypt was the home of art, science, and learning, as well as of political power. Carthage was a great nation, able to contest with Rome for the mastery of the world.

The rest of Africa has always remained in the depths of barbarism, except where the influence of Europe has preserved from utter degradation such parts of the country as it could reach. Beyond the edge of the desert, however, except where there has been active colonization, most of the natives of Africa are still in abject savagery.

The people of the northern part are not Negroes. They are of a mixed race made up of Arabs, Moors, and Negroes. The Negro race alone can thrive in the low parts of Africa lying in the torrid zone.

In the south temperate zone Europeans have established themselves. The Dutch have long been settled there, and the English have two large and flourishing colonies. The eastern coast is controlled by different European nations. Railroads are being built and the commercial development of Africa is progressing.

Dwell upon the importance of the Suez Canal from the Mediterranean to the Red Sea across the isthmus. Let pupils estimate the saving of distance from England to India by the canal.



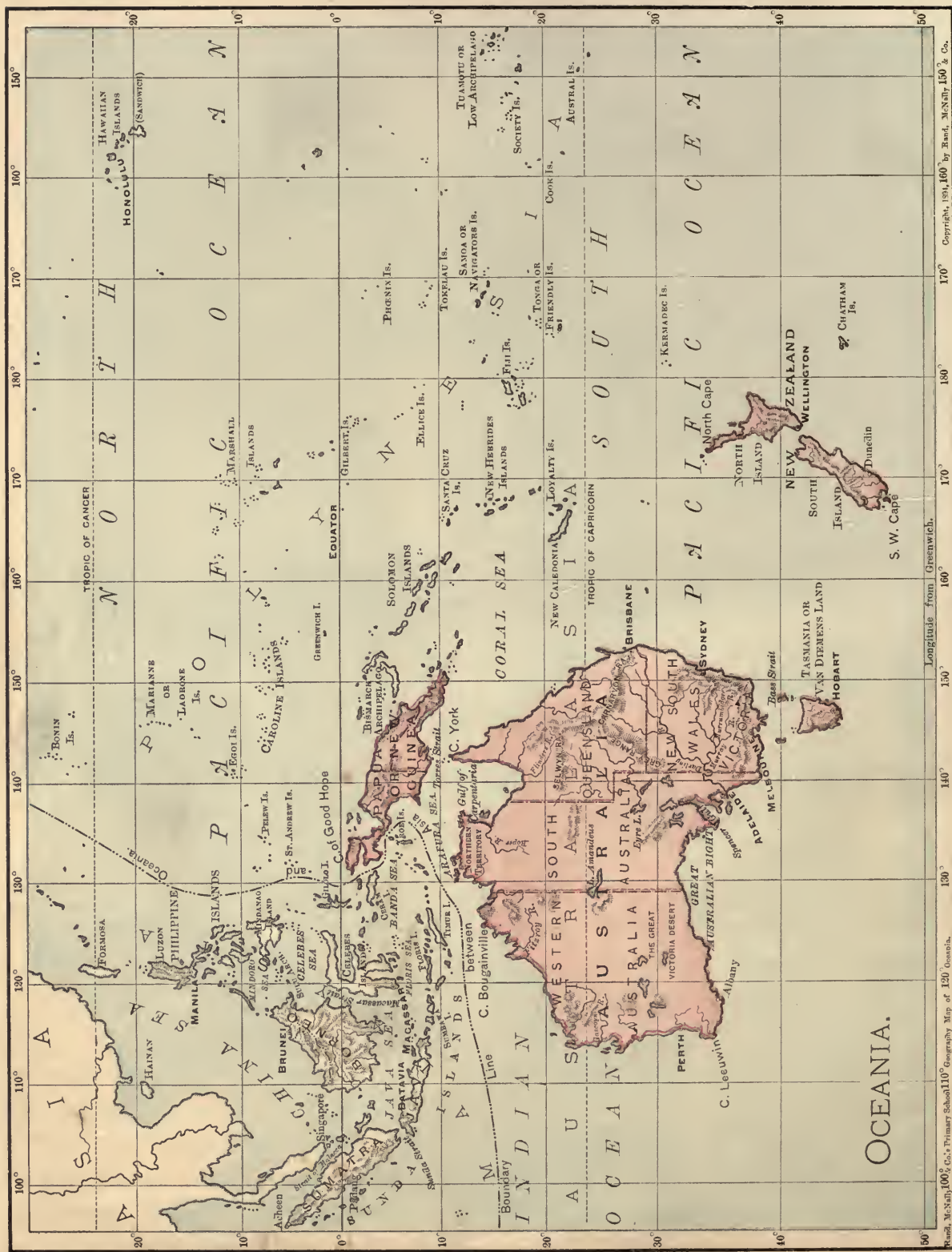
OSTRICHES.

The best known portion of Africa is the lower part of the Nile Valley, called Egypt; it is a farming country. The natives still use the same rude implements that their forefathers used centuries ago.

In the rich Nile Valley cotton is now the chief product and export. Explain that the fertility of this valley depends entirely upon the annual overflow of the river, which deposits a sediment brought down by its current that enriches the soil and wets it enough to support the crop, for the country is rainless.

Mention the great ostrich farms in the British colonies in the south, and the famous diamond fields, which are the richest yet discovered.

Explain that all trade across the Sahara is by caravan. The camel, the only animal that can endure the heat, stores up a supply of water in the pouches of his stomach which lasts him for a journey of many days.





LESSON 66.

Oceania.

What is Oceania?

A Grand Division composed of all the land of the Pacific Ocean, except those near Asia and North and South America.

Of what does this land consist?

Of the Continent of Australia and several thousands of islands.

Are some of these islands large?

Yes; New Guinea is the largest island in the world. It lies north of Australia.

*In what direction is Oceania from Asia?
From North America?*

Where is New Zealand? Tasmania?

To whom does New Guinea belong?

It is divided among Germany, the British Empire, and the Netherlands.

To whom do Australia, Tasmania, and New Zealand belong?

To the English.

To what race do the natives belong?

To the brown, or Malay, race, except in Australia and New Guinea, where they are more like Negroes.

Where are the many small islands of Oceania?

They lie eastward and northward from Australia, and all together are called Polynesia. The islands lie mostly in groups.

What kinds of islands are they?

Some have been thrown up by volcanic action, and some are atolls, or coral islands.

Which are the most fertile?

The volcanic islands, because their mountains cause rain, while the coral islands are flat and dry.

What are the productions?

Like those of other warm countries.

Which group lies nearest to the United States?

The Hawaiian, or Sandwich, Islands.

What is the capital?

Honolulu.

On which island is it situated?

Oahu.

Which is the largest of the group?

Hawaii.

Are the natives of the islands of Oceania gaining in civilization?

Yes; under the influence of missionary work they are gradually growing less savage, but they are rapidly decreasing in number and will soon pass away.

ORAL EXERCISE.

Show by maps that, while the Atlantic Ocean has but very few islands not closely related to continents, the Pacific is dotted with groups scattered over a large portion of its surface. Most of these are in the torrid zone. Their climate, however, is pleasant, tempered as it is by the winds of the ocean. They have no winter, and all seasons are mild and spring-like.

Explain how an island may be formed by the action of a volcano under water, pouring out lava, etc., until the whole mass reaches above the water level.



CORAL.



AN ATOLL.

Nowhere else have the coral insects been more diligent than in the Pacific Ocean. Show how by ceaseless activity extending through thousands of years they have built up innumerable reefs above the surface of the water to become islands. No doubt there are thousands more of rising banks of coral growing slowly which will ages hence be islands, and no doubt through time to come volcanoes will also act, so that new islands will be made to dot the Pacific.

There are many coral reefs now known not high or wide enough to be considered islands. One running along the northeast coast of Australia, called the Great Barrier Reef, is twelve hundred miles in length.

Relate stories of the first visits to the islands of Oceania. The natives were savage and warlike, and when they captured their enemies they killed and ate them. From civilized nations missionaries were sent to improve their moral condition and teach them Christianity. Unfortunately they have learned some of the vices of the white race, so through drunkenness and disease they are growing fewer and fewer in number.

Few wild animals were found, and those not large; but many domestic animals have been introduced.

Speak of the bread-fruit, which grows upon a tree, and, when baked, tastes like bread, and forms a leading food of the natives. Many useful plants of other parts of the world have been introduced and grow freely. The cocoanut tree grows on all the islands,



COCOANUT TREE.

LESSON 67.

Australia.*How large is Australia?*

About as large as the United States.

*In what direction is it from Asia?**Is the coast of Australia more like that of Europe or that of Africa?*

Like that of Africa. It has few water inlets, but these are generally good harbors.

*Where is the Gulf of Carpentaria? Spencer Gulf? What cape is the northern point?**Describe the surface.*

Low mountains extend nearly around the continent near the coast. The interior consists mainly of level plains.

Where is most of the drainage?

In the eastern part.

*What is the chief river? What tropic crosses Australia?**In what part are the cities of Sydney and Melbourne?**Of what descent are most of the people?*

European; they number less than three millions.

Where do most of the people live?

In the southeastern part.

Is there much waste country, as in Asia?

Yes; most of the interior and western part is desert land.

What are the productions?

Gold, wool, meats, hides, and wheat.

Are there many kinds of animals?

Not many. Most of the native animals are such as live nowhere else in the world.

Name the most important native animal.

The kangaroo.

ORAL EXERCISE.



THE EMU.

Explain that, while Australia looks small upon the map as compared with the United States, it is because the scale is different.

The interior is but little known. It is not well adapted for the use of man, especially the western part.

The surface is largely covered by grasses, ferns, and bushes. The trees and plants are peculiar and are mostly evergreens. Some trees shed their bark instead of their leaves every year; ferns grow as large as trees.

The Australian natives are of the Negro type and, like the North American Indians, are fast disappearing. The population is mostly white.

Australia is peculiar in many ways. The native animals differ widely from those of other countries, but the domestic animals of Europe have been introduced. There are no large beasts of prey nor large animals of any kind native to the country.

On the other hand, such animals as are native are found nowhere else. Among them are many of the most beautiful birds known.

Describe the kangaroo, the wild dog, the platypus or duckbill, lyre bird, etc.

Gold and silver are very plentiful in Australia, and other minerals are found in abundance.

Many millions of sheep are kept, and Australia is the greatest wool-producing country of the world.

Nearly all the commerce of the continent is with the people of England.

Melbourne and Sydney are very large and important cities. The latter has one of the finest harbors in the world.



TREE FERN.

PRONUNCIATION OF GEOGRAPHICAL NAMES.

Abyssinia	Ab-is-sin'e-eh.	Havre	Hahv'r.	Persia	Per'she-eh
Aconagua	Ah-kon-kah'gwah.	Hawaii	Hah-wi'e.	Philippine	Fil'ip-in.
Adriatic	Ad-re-at'ik.	Hayti	Hay'te.	Phoenix	Fe'nix.
Afghanistan	Ahf-gan-is-tahn'.	Helena (Mont.)	Hel'e-neh.	Pierre	Pe-ayr'.
Africa	Af're-keh.	Himalaya	Him-ah'li-yah.	Polynesia	Pol-y-ne'she-eh.
Agulhas	A-gool'yas.	Hoang Ho	Ho-ahng'ho.	Popocatepetl	Po-po-kat-a-peh'tl.
Alabama	Al-eh-bah'meh.	Honolulu	Hon-o-loo'loo.	Portuguese	Port'u-geez.
Alaska	A-las'keh.	Houston	Hu'stun.	Potomac	Po-to'mak.
Albany	Aw'l'beh-nee.	Hue	Hoo-ay'.	Potosi	Po-to-see'.
Aleutian	A-lu'she-an.			Puerto Rico	Pu-er-to Re'ko.
Algeria	Al-jee're-ah.	Idaho	I'deh-ho.	Puget	Pu'jet.
Alleghany	Al-le-gay'nee.	Illinois	Il-lin-oy'.	Pyrenees	Pir'eh-neeze.
Altai	Ahl-ti'.	Indiana	In-de-an'eh.		
Amazon	Am'a-zon.	Indies	In'deez.	Quebec	Kwe-bek'.
Amoor	Ah-moor'.	Iowa	I'o-weh.	Quito	Ke'to.
Anam	An-ahm'.	Irrawaddy	Ir-ra-wod'dy.		
Antarctic	Ant-ark'tik.			Rainier	Ra'neer.
Appalachian	Ap-pa-lay'che-an.	Java	Jah'veh.	Raleigh	Rah'le.
Arctic	Ark'tik.	Joannes	Zho-an'neeze.	Rhode Island	Rode I'land.
Argentina	Ar'jen-teen.			Rio de la Plata	Re'o day lah Plah'tah.
Arizona	Ar-i-zo'neh.	Kamchatka	Kahm-chaht'ka.	Rio Grande	Re'o Grah'n'day.
Arkansas	Ar'kan-saw.	Kara	Kah'rah.	Rio Janeiro	Re'o Jah-ne'ro.
Asia	A'she-eh.	Kelat	Kel-ah't'.	Roumania	Roo-may'ne-eh.
Asuncion	A-soon-se-own'.	Kentucky	Ken-tuck'y.	Russia	Rush'yeh.
Australia	Aws-tray'ly-eh.	Kilimanjaro	Kil'i'e-mah-n'jah-ro.	Ruvenzori	Ru-wen-zo'ry.
Bahama	Bah-ha'meh.	Labrador	Lab-reh-dore'.	Sacramento	Sak-reh-men'to.
Baltic	Bawl'tik.	La Paz	Lah Pahz'.	Sahara	Sa-hah'rah.
Baluchistan	Bay-loo-chis-tahn'.	Lima	Le'mah.	Santa Fe	Sahn-tah Fay'.
Bangkok	Bang-kok'.	Louisiana	Loo-e-ze-ah'neh.	Santiago	Sahn-te-ah'go.
Bangweolo	Bang-we-o'lo.			Schuykill	Skool'kill.
Baton Rouge	Bat'un Roozh'.	Madrid	Mad-rid'.	Sciota	Si-o'teh.
Bengal	Ben-gaw'l.	Magellan	Ma-jel'lehn.	Seine	Sane.
Bismarck	Biz'mark.	Maine	Mane.	Seoul	Say-ool'.
Blanco	Blang'ko.	Malay	Ma-lay'.	Sierra Leone	Se-er'rah Lay-o'ny.
Bogota	Bo-go-tah'.	Malaysia	Ma-lay'she-eh.	Sierra Nevada	Se-er'rah Nay-vah'deh.
Boise	Boi'zay.	Manitoba	Man-e-to'bah.	Signal	Sig-nah'le.
Bokhara	Bok-ah'rah.	Marajo	Mah-rah'ho.	Singapore	Sing-ga-pore'.
Bosporus	Bos'po-rus.	Marseilles	Mar-saylz'.	Sofia	So-f'e-eh.
Brahmapootra	Brah-meh-poo'treh.	Maryland	May're-land.	Soudan	Soo-dah'u.
Brazil	Brah-zil'.	Massachusetts	Mas-seh-chu'sets.	South Carolina	South Kar-o-li'neh.
Buenos Ayres	Bo'nos Ay'riz.	Melbourne	Mel'burn.	South Dakota	South Deh-ko'teh.
Bukharest	Boo'ka-rest.	Michigan	Mish'e-gan.	St. Augustine	Sent Aw-gus-teen'.
Bulgaria	Bool-gay're-eh.	Minnesota	Min-ne-so'teh.	St. Louis	Sent Loo'ce.
		Mississippi	Mis-sis-ip'y.	St. Roque	Sent Roke'.
Cabul	Kah-bool'.	Missouri	Mis-soo'ry.	Stockholm	Stock'home.
Cairo	Ki'ro.	Mobile	Mo-beel'.	Sucre	Soo'kreh.
California	Kal-e-for'ne-eh.	Mocha	Mo'kah.	Sumatra	Soo-mah'trah.
Callao	Kah-lah'o.	Monongahela	Mo-non-geh-he'leh.	Sydney	Sid'ny.
Caracas	Kah-rah'kabs.	Montana	Mon-tah'neh.		
Caribbean	Kar-ib-be'an.	Montenegro	Mon-tay-nay'gro.	Tahlequah	Tah-le-kwah'.
Caucasus	Kaw'keh-sus.	Montevideo	Mon-ta-ve-day'o.	Tanganyika	Tahn-gahn-ye'kah.
Cayambe	Ki-ahm'bay.	Montpelier	Mont-pe'li-er.	Tasmania	Taz-may'ny-eh.
Cayenne	Kay-yen'.	Mozambique	Mo-zam-beek'.	Tchad	Chahd.
Celebes	Sel'e-bes.			Teheran	Teh-her-ahn'.
Cetigne	Chet-teen'yay.			Tennessee	Ten-nes-see'.
Ceylon	See-lon'.	Nebraska	Neh-bras'keh.	Texas	Teks'as.
Champlain	Sham-plane'.	Nevada	Nay-vah'deh.	Thames	Temz.
Chesapeake	Ches'eh-peke.	Newfoundland	Nu fund-land.	The Hague	Hayg.
Cheyenne	Shi-en'.	New Guinea	Nu Ghin'e.	Thibet	Tib'et.
Chicago	She-kaw'go.	New Hampshire	Nu Hamp'shere.	Tierra del Fuego	Te-er'rah del Fway'go
Chile	Chil'lee.	New Jersey	Nu Jer'zy.	Titicaca	Te-te-kah'kah.
Chimborazo	Chim-bo-rah'zo.	New Mexico	Nu Mek'si-ko.	Tokyo	To'ke-o.
Christiania	Kris-te-an'e-ah.	New Orleans	Nu Or'le-ehnz.	Tripoli	Trip'o-ly.
Cincinnati	Sin-sin-nah'tee.	New York	Nu York'.	Tulare	Too-lair'.
Colorado	Kol-o-rah'do.	New Zealand	Nu Zee'land.		
Connecticut	Kon-net'e-kut.	Nicaragua	Ne-kah-rah'gwah.	Uruguay	O-roo-gwi'.
		Niger	Ni'jer.	Utah	U'tah.
Darien	Day're-en.	North Carolina	North Kar-o-li'neh.		
Delaware	De'eh-ware.	North Dakota	North Deh-ko'teh.	Valparaiso	Vahl-pah-ri'so.
Des Moines	Da Moin'.	Nova Scotia	No-veh Sko'she-eh.	Vancouver	Van-koov'er.
Dresden	Drez'den.	Nyanza	N'yahn'zah.	Venezuela	Ven-ez-wee'lah.
		Nyassa	N'yah'sah.	Vera Cruz	Vay'rah Kroos.
Ecuador	Ek-wah-dor'.			Vermont	Ver-mont'.
Edinburgh	Ed'in-bur-ruh.	Obi	O'be.	Vienna	Ve-en'nah.
England	Ing'gland.	Oceania	O-she-ah'ne-eh.	Virginia	Vir-jin'y-eh.
Euphrates	Yu-fray'teez.	Ohio	O-hi'o.		
Europe	Yu'rup.	Okhotsk	O-kotsk'.	Wasatch	Wah-satch'.
		Oklahoma	Ok-leh-ho'meh.	Washington	Wosh'ing-ton.
Falkland	Fawk'land.	Omaha	O'meh-hah.	West Virginia	West Vir-jin'y-eh.
Florida	Flor'e-deh.	Oregon	Or'eh-gon.	Willamette	Wil-ah'met.
Frigid	Frij'id.	Ottawa	Ot'teh-wah.	Wisconsin	Wis-ko'n-sin.
				Wyoming	Wi-o'ming.
Gallinas	Gal-lee'nahs.	Padang	Pa-dang'.		
Ganges	Gan'jeez.	Palestine	Pal'es-tine.	Yang tse Kiang	Yang'tse Ke-ang'.
Genoa	Jen'o-eh.	Panama	Pan-a-mah'.	Yenisei	Yen-e'say'e.
Georgia	Jor'je-eh.	Papua	Pap'oo-ah.	Yokohama	Yo-ko-hah'mah.
Gibraltar	Jib-raw'l'tar.	Paraguay	Pah rah-gwi'.	Yucatan	Yoo-kah-tahn'.
Greenwich	Grin'tj.	Parana	Pah-rah-nah'.		
Guadaful	Gwah'r-dah-fwe'.	Parima	Pah-re'mah.		
Guayaquil	Gwi-ah-keel'.	Pennsylvania	Pen-sil-vay'ny-eh.	Zambesi	Zam-bay'ze. ✓
Guiana	Ge-ah'nah.	Pernambuco	Per-nam-boo'ko.		
Guinea	Ghin'ee.				



